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Bacteriological Warfare

Dr. Robert Lim, head of the Chinese Red Cross and the army medical training services, said recently: "I do not expect Americans, British and others to believe stories that the Japs are resorting to bacteriological warfare today, as they did not believe for a long time the stories that the Japs were using gas in China. I realize that the idea of widespread scattering of the plague appears at first somewhat in the realm of fantasy."

There are, however, some Americans who believe these stories. Dr. Thomas Parran, Surgeon General, U. S. Public Health Service, warned recently that the enemy has planned and in his opinion will use bacteriological warfare wherever possible. Such tactics, he said, could be as deadly as mustard gas or explosives.

Harrison Forman, in *The New York Times*, gave a report on the spread of bubonic plague in Chinese Changteh which is laid to fliers who dropped infected fleas on that city. The report is based on statements of Dr. Lim, and Dr. R. Pollitzer, former League of Nations epidemiologist, stationed now in Changteh in Hunan Province. The outbreak of the plague is traced to November 4th, when Changteh, a city of fifty thousand population, was raided by a single Japanese plane. The plane flew at an extremely low altitude, not dropping a single bomb. The residents were puzzled when they observed scattered rice grains mixed with wisps of cotton rags. Samples saved for analysis were found contaminated with bubonic plague bacilli. Less than a week later six cases of plague were reported and later more cases occurred. All the victims died within thirty-six hours, and autopsy confirmed the diagnosis.

There had been no plague reported in Changteh for more than ten generations, and the nearest epidemic region is more than five hundred miles distant. The victims were not transients or refugees but residents. The fact that the plague did not spread is attributed to the cold spell, which set in shortly thereafter.

Bubonic plague was reported after a similar mysterious raid in Chekiang Province in November 1940, under almost identical circumstances, low-flying planes dropping fleas in cachets of grain or rice to attract rats. The outbreaks occurred about a week later. As in Changteh no dead rats were seen, leading to the belief that the plague was directly transmitted by infected fleas. At Chusien in Chekiang Province there were twenty-one victims of plague twenty-four days after the mysterious Japanese raid. Though the cold weather checked the plague the disease spread among rats and remained dormant until the spring of 1941, when it appeared. Between March and July there were 157 cases and 148 deaths.

The Chinese National Health Administration and the War Ministry are cooperating in burning houses that are believed to be infected and disinfecting river boats that enter or leave suspected areas. Air raid precautions workers throughout the country have been warned to destroy all articles dropped from Japanese planes and to disinfect sweeping implements afterward. The National Health Administration has instructed all local health authorities to prepare antiepidemic equipment, and antiepidemic bureaus have been ordered to prepare ample quantities of antibubonic plague vaccine for public sale.

Dr. Linn believes that the Japanese thus far have been experimenting in China. He said it was his firm conviction that Japan is planning large-scale bacteriological warfare, not only in China but elsewhere, especially when things start going wrong for her.

Spring Cures

Spring is a time of ecstasy for some people and of depression for others, and these feelings of excitement and depression connected with spring induced the custom of spring cures in ancient times. Scarcely a century ago, they were common in many countries. While today they are less popular, they have been revived during the last few years.

Various herbs and plants are used in the form of spring teas or other beverages. These cures usually work in two directions. They stimulate the kidney secretions and the activity of the bowels, and both help to free the body of poisons and toxins which have accumulated during the long winter months. Fresh salads and vegetables, which once were rare in many regions in winter, reappear. They provide the body with various vitamins and minerals which are needed.

Hydrotherapy, in the form of baths and drinking various mineral waters, is useful in spring and early

summer. For people of advanced age, such a cure taken once a year is of great value. Besides the mineral water, the changed way of life at a spa helps to rejuvenate the body. In some cities, socalled spas are set up in spring time where various kinds of mineral water can be obtained. These are often located where they can be reached in the course of a walk through a park, providing the necessary exercise which in many spas constitutes an important part of the cure.

Spring brings about the mightiest medicament of all: the sun. The warm rays do not fail to lure those who need them most: children and elderly people. They gather in sunny places and actually seem to blossom under the healthful influence of the sun. They should not forget, however, that the sun's rays are a strong medicament, and that those who get too much sunlight, may start the warm season with painful burns.

Those who are able to satisfy their spring desire to travel are happy indeed. Some people cannot stand the fresh scent of the snow-free soil or the tender fragrance of spring flowers without being overwhelmed by the desire for far places.

All at once, the depressive mood of the long dark months disappears. It is the time to review our lives and habits and try to follow in Nature's footsteps. A return to nature, within possible limitations, is the best spring cure for everyone—patient or doctor.

Foreign Bodies in Urinary Stone Formation

Trauma may induce urinary stone formation, and as Alex A. Roche has pointed out (*West London Medical Journal,* April 1941), trauma includes foreign bodies. Among those introduced by the surgeon are rubber tubes, portions of a catheter, and silk sutures. Roche warns that silk should be avoided in urology and in certain gynecological operations near the bladder into which the sutures may unknowingly penetrate. But the efforts of some surgeons to prevent even catgut from penetrating the urinary lumen are often difficult and in his opinion unnecessary. Roche draws attention to the fact that a special complication of internal urethrotomy, not mentioned as far as he is aware in textbooks, is the inadvertent leaving of the flexible guide in the bladder on removal of the grooved metal attachment. This accident, which befell him when a resident surgeon, can occur if the screw threads of the parts to be attached are worn, or if there is a longitudinal crack in the metal end of the flexible guide. The complication can be definitely prevented if, after screwing together the two portions of the instrument, their longitudinal separation is proved to be impossible. The patient concerned returned two or three months later, pleased with the improvement in micturition but with the feeling that he did not quite empty the bladder. An x ray picture led to the removal, by means of a lithotrite, of the phosphate coated guide. Many years after this occurrence it was mentioned to a distinguished urologist performing internal urethrotomy. Replying that this accident had never happened to him he pulled out the curved metal grooved attachment, leaving the guide behind! This was quickly removed by a lithrotrite.

Foreign bodies introduced by the patient include paraffin wax, chewing gum, hairpins, sewing needles and pieces of wood.

Roche said he once had to remove a needle introduced *per urethram* into a male bladder. Ureteric forceps, passed through a cystoscope, at first grasped the needle too near its middle. On subsequently gripping the needle nearer one end, it swung longitudinally and was easily withdrawn.

Roche holds that the most important postoperative prophylactic measure against stone recurrence is the drinking of much water.

War and Standards of Fitness for Medical Officers

Our country is at war! During peace time preparation for national defense, the examination and classification of the mass of man power may have had justification. It may have been an excellent idea to obtain a cross section determination, solely for statistical purposes, of what the nation had on tap in the way of completely healthy young men; those with remedial defects; those unsuited for field duty but available physically for home guard and industrial mobilization; and those totally unfit for any physical exertion in the field or at home. It is no longer an excellent idea! Every adult has a job in this country's forces in a period of war. Flat feet, poor vision without glasses, corrected or correctible, under height or overweight—these and others are not the criteria for physical fitness in war emergency.

The stringent physical requirements of a medical graduate seeking to enter the armed forces as a career medical officer can safely be lowered to admit physicians and surgeons willing to do their share in the war emergency!

Our country is at war! Let us review our everyday procedure with that one thought everlastingly in mind. If the present method of examination, if the present standards of physical fitness for temporary medical officers is too high for the majority of medical practitioners of mature experience, revise these standards!

Our country is at war! Let us face reality. All efforts are concentrated on the creation of a fighting force—fit to fight—and kept fit to fight. Let all medical men be given war emergency commissions and assignments conforming to their abilities.

Papers and Addresses

PRIMARY CARCINOMA OF FALLOPIAN TUBE

Case Report

EDWARD HOENIG and MARIE PICHEL WARNER
New York, N. Y.

Primary carcinoma of the fallopian tube has an incidence of 0.5 percent reported by Martzloff (8) as compared to all other types of genital cancers in women, but, according to Langdon Parsons (1) is the most malignant form of genital cancer. In the 350 cases reviewed in the literature, only forty-five of the patients were alive after three years (1). Since the only hope for recovery lies in early radical operative procedures, before metastasis has occurred, the earliest possible diagnosis is imperative. Therefore, despite its relatively low incidence, this type of cancer must be thought of more frequently when atypical bleeding, atypical vaginal discharge and pelvic pain of unknown cause occur in women of middle age or in the menopause years.

Because of the relative infrequency of the condition, its possibility is most often overlooked. The rarity of primary carcinoma of the tube is evidenced by the small number of cases reported from the various hospital centers. Parsons (1) in his detailed review of the literature cites reports as follows: Wharton and Krock (2), five cases in thirty-five thousand gynecological patients at Johns Hopkins Hospital; Parsons (1), eight cases from the Massachusetts General Hospital; Barrows (3), three cases out of thirty thousand at Bellevue Hospital, New York City; Anspach (4), one case in 19,439 at the University Hospital, Philadelphia; Dr. I. C. Rubin, of Mt. Sinai Hospital, New York City, found one case in four hundred service cases of genital cancer out of 8356 gynecological cases from 1928-39; one case in 333 private cases; (during 1928-39, he found 125 cases of primary cancer of the ovary and eighty-eight cases of primary cancer of the uterus.)(1). Haupt (1) found 0.22 percent of cases among 1361 genital cancer cases at the Von Frangues Clinic; Schmidt found one percent in 995 gynecological operative cases at the University Frauenklinik in Berlin (1); one case was reported in 1940 by Martzloff which was diagnosed preoperatively (8).

We should like to report the only case of primary carcinoma of the tube found in the Jewish Memorial Hospital, New York City, in 1250 gynecological cases in which the patients were operated upon there between June, 1938, and October, 1940.

Case Report

On July 14, 1938, one of us (M.P.W.) examined Mrs. F. W., a Roumanian Jewess, forty-three years old, married twenty years. She had one son eighteen years old, and three induced abortions, the last one eight years previously. Her complaints were irregular bleeding for two months, malodorous, profuse vaginal discharge, insomnia and constipation. She had seen two physicians previously for vaginal bleeding and was told that it was due to "cervical cysts" for which she had a cauterization five weeks before. Bleeding had been continuous and of increasing severity since then, with clots and an interval brownish watery discharge. In addition to the bleeding and discharge, she felt "nervous and upset."

Menstrual history: Menstruation began at ten years of age, occurred at twenty-one to twenty-six day intervals, lasting three days. Her last regular period was May 18, 1938. She had spotted intermittently since then for two months.

Marital history: Her husband was fifty-three years old. They had infrequent coitus and condoms were used.

Past history: No serious illnesses or operations. There had been no loss of weight; usual weight 125 pounds.

Family history: Her father died of coronary disease; her mother was living, but suffered from hypertension; two brothers were living and well. The family history was negative for carcinoma.

Physical examination: The patient was a well nourished female of fair complexion. Height, fifty-nine and one-quarter inches; weight, one hundred twenty-one and one-half pounds (an apparent loss of three and one-quarter pounds in the past year). Her oral temperature was 98.6°, blood pressure 102/80, pulse 78 per minute. Her heart and lungs were negative. Breasts were small and firm; there were no masses or tenderness. Hemoglobin was 85 percent (Sahli), urine analysis negative, Wassermann test negative.

Abdominal examination: There were no masses or tender points. Liver and spleen were not palpable.

Pelvic examination: Normal vulvæ, parous introitus. There was a brownish watery discharge from the lacerated, firm cervix. The uterus was small, fibrotic and irregular with nodules felt on the posterior wall. The right adnexa was palpable and about the size of a plum.

Treatment: One c.c. of antuitrin "S" was given and hot douches were prescribed. She was advised to return in one week for further examination and a diagnostic curettage was advised if the bleeding continued. She returned one week later (July 20, 1938) stating that the bleeding and discharge were still present. Dr. Edward Hoenig was consulted and his examination confirmed the previous findings, including a right adnexal mass felt to be continuous with the uterus. It was believed that she had an ovarian cyst or submucous fibroid and a laparotomy was advised.

Operative findings: July 21, 1938: Operation at the Jewish Memorial Hospital by E. Hoenig and M. P. Warner, consisted of a bilateral salpingo-oophorectomy, appendectomy, and a supravaginal hysterectomy. A midline incision was made. On opening the abdominal cavity, a small amount of straw colored fluid was

found present. The right ovary was found to be the size of a fist, and attached to the sigmoid and posterior part of the broad ligament. The right ovary presented a hard, papillary outgrowth. The right tube was markedly thickened. Double salpingo-oophorectomy was performed. The uterus was removed by means of supravaginal hysterectomy. Appendectomy was done. The mesentery and peritoneum were studded with hard nodules of a dark red hue, some of which were removed for biopsy. The abdomen was closed in layers using plain catgut for the peritoneum, chromic for the fascia and clips for the skin.

The postoperative diagnosis was papillary cyst of right ovary and chronic appendicitis.

Pathology Report

Gross: The specimen consisted of a supracervically amputated uterus and an attached tube and ovary, and a separate larger tuboovarian mass. The latter larger tuboovarian mass was identified as the right tube and ovary and included a large distended tube with bulky tumor tissue filling the ampullary portion. This tube measured eight cm. in length, three and five tenths cm. through the ampulla, and fully five cm. across the fimbriated terminal portion. The fimbriated end showed a rather smooth external surface, except where it had been torn and denuded. On section, the tube wall was found thinned throughout and its lumen was found occupied by firm white granular tumor tissue with areas of necrosis. The tumor tissue was solid and widest at the fimbriated end, on transection, the tumor mass filled the entire portion of the outer two-thirds of the tube. It tapered as it approached the uterine end where it was distinctly separated from the thinned lining mucosa of the tube over most of its surface. The proximal portion of the tube showed prominent folds of the mucosa but no tumor tissue in the lumen. The regional ovary was small, in contrast to the tubal mass, measuring only four by four by two cm., and was quite irregular and nodular on the surface. On section, definite areas of ovarian stroma were identified with an atrophic corpus luteum but the outer surface showed isolated rounded nodules of tumor tissue varying from one to one and one-half and two cm. The nodules were peripherally placed and were rounded or ovoid in contour with a central depressed translucent area. They were firm, white and showed opaque foci.

The uterus measured five cm. in width, three cm. in thickness and six cm. in length. Its wall showed some thickening with prominent outing, bulging vessels. The endometrium was smooth throughout.

The attached left tube was small and somewhat atrophic, measuring six cm. in length with some prominence of folds at the fimbriated end. The wall felt firm.

The attached left ovary showed considerable compact stroma with, however, several bulging nodular masses. The entire ovary width included measured four by three by one and one-half cm. The cut surface showed three separate masses which, like the right ovary, were placed peripherally with stroma intact toward the hylus. The stroma measured fully two and one-half by one and one-half cm. and showed an atrophic yellowish corpus luteum body. The surface nodules varied from one to one and one-half and two cm. and showed granular white firm tissue with opaque foci.

Microscopic: Section of the tube wall showed identifiable muscle quite atrophic, and general thinning of wall coats. Attached to the tube wall, compact glandular hypertrophic epithelial tissue was found. The cells showed considerable hypertrophy of nuclei with variation and mitoses. The epithelial cells were heaped up about a central stromal cord which was vascularized giving the tissue a papilliferous appearance. Numerous small areas of necrosis were included. No mucous area or ciliated epithelium was identified. Section through the bulbous end of this tube showed better identifiable glandular structure, quite atypical in arrangement however. The papillary arrangement remained distinctive.

The right ovary showed characteristic stroma with isolated areas of atypical glandular tumor tissue. Considerable focal necrosis was present in the tumor tissue. The glandular arrangement persisted but in some areas a diffuse compact cellular appearance was noted. The corpus luteum showed central hemorrhage.

Section from the other ovary showed similar isolated areas of tumor tissue with glandular arrangement and some attached vascularized fibrillar adhesions.

Diagnosis: There was a bulky papillary adenocarcinoma of the right tube with metastasis to right and left ovaries; the left tube showed simple atrophy. No definite pathological diagnosis was made in regard to the uterus.

Appendix: Progressive fibrosis and liposis with obliteration were present. Gross pathology: The appendix measured five and one-half cm. in length, one-half mm. in diameter; external surface smooth. There was some fatty attachment to the distal end. On section, the lumen was found completely obliterated and the walls were all hypertrophied.

Microscopic examination showed complete obliteration of appendix by fat and fibrous tissue; no diffuse exudate.

The pathology report was made by Alfred Angrist, M.D., pathologist to the Jewish Memorial Hospital.

Subsequent Course of Case

The immediate postoperative course was complicated by an attack of Bacillus coli cystitis and bronchitis. An x ray of the patient's chest, taken twelve days postoperatively, was reported as not revealing any pulmonary or cardiac pathology. She was discharged from the hospital on the twenty-second postoperative day. At the time of her discharge, her blood count was 3,530,000 red blood cells and 72 percent hemoglobin (Sahli).

Deep x ray therapy was administered from September to November, 1938, by Dr. J. Townsend Travers, who, on November 22d reported as follows:

"We have completed irradiating your patient, Mrs. F. W. We have delivered 1500r (measured in air) to each of the four portals of the anterior and posterior pelves. This amount of radiation is not adequate for this type of lesion. The radiation was given in fractional doses of 150r to preserve the skin. No further radiation should be given at this time. We therefore suggest one month's skin rest at this time, then an additional cycle of radiotherapy should be delivered."

For four months the patient felt quite well except for flushes and moderate weakness. The flushes responded to estrogenic substance administered intramuscularly and orally. Her weight was 128 pounds.

Nine months after operation, she complained of sharp pains through her right chest. X ray and fluoroscopy revealed that the right leaf of the diaphragm was elevated and fixed, the right costophrenic sinus obliterated and a metastatic nodule was present in the fifth right rib. Her temperature was 99.4°, sedimentation rate 68 mm. per hour (Westergren technique). Abdominopelvic examination revealed that the lower abdomen and pelvis were filled with hard nodular irregular masses. Her condition became rapidly worse. She developed a phlebitis of the left leg and complained of weakness, nausea, anorexia, constipation, pains in her back, abdomen and legs. The abdominal masses increased in size. Bilateral phlebitis occurred, pulmonary involvement was bilateral and extensive and on March 4, 1940, nineteen months after operation, right hemiplegia developed, indicating cerebral involvement. She died four days later, on March 8th, from terminal bronchopneumonia. An autopsy was not obtained.

Summary of Important Findings from Published Case Reports of Primary Carcinoma of Tube

Age: Usually during the climacteric, most cases after forty years; exceptional cases at eighteen (5) and twenty-seven (6) have been reported. (Carcinoma of the ovary is present in a higher percentage under forty years.)

Etiology; Unknown. Many cases have preceding salpingitis and sterility relationship.

Symptoms: 1. Bleeding: This is the most frequent pronounced symptom. Menorrhagia, intermittent bleeding or watery secretion; postmenopausal. (Note: Dr. I. C. Rubin believes (1) symptom differentiating primary ovarian cancer from papillary cancer of tube appears to be intermittent bleeding. He has rarely seen papillary cancer of ovary with uterine bleeding.)

2. Pain: Intermittent colicky pains, pelvic discomfort, chills, fever. Relief of pains following profuse vaginal discharge of blood or pus frequently reported. (This patient did not complain of pain.)

3. Site, shape, rapid development of tumor mass and negative curettage findings.

4. Ascites, abdominal masses, due to late metastasis.

Differential diagnosis: Differentiate from menopausal bleeding, ovarian cysts, salpingitis, endometriosis, ectopic pregnancy, hydrosalpinx, carcinoma of the uterus, carcinoma of the tube, carcinoma of the ovary, granulosa cell tumor, uterine papillary carcinoma with metastatic ovarian papillary carcinoma. Adnexitis seldom causes bleeding after the menopause. Finding a small uterus and normal endometrium after careful curettage is presumptive evidence of the absence of carcinoma of the uterus and ovary. Ovarian tumors usually show hyperplasia of the endometrium. Hydrosalpinx, gonorrheal infection of the tubes, tuboovarian abscess and carcinoma of the tube may be differentiated only after exploratory operation and microscopic study.

Diagnostic procedures: 1. Dilatation and curettage for type of endometrial tissue. Suspect carcinoma of tube where there is negative endometrium and atrophic uterus.

2. Some of the newer tests useful in differentiating primary carcinoma of the tube preoperatively are: 1, hormonal assay to differentiate estrogenic bleeding from malignancy; 2, hysterosalpingography: there is little danger of metastases from intraperitoneal spread since the fimbriated end of the tube is usually occluded in these conditions. This test should now be done in all cases suspected of being primary carcinoma of the tube.

3. Exploratory laparotomy and microscopic study. Frequent bilateral tubal masses in outer two-thirds. Fimbriated ends closed.

Pathology: Histological findings. Carcinoma of tubes with or without metastasis to ovaries, lymphatics and lower abdomen. (McGlinn and Harper (7) report thirty percent metastasis.)

Treatment: Total hysterectomy, bilateral salpingo-oophorectomy followed by x ray therapy.

Prognosis: Without x ray, less than four percent after three years.

Differential diagnosis: Most usually from carcinoma of ovary.

Most important diagnostic procedure: Following negative dilatation and curettage, do a hysterosalpingography, then do an early exploratory laparotomy. It is difficult to diagnose preoperatively carcinoma of the tube. In all cases of irregular bleeding in women of middle age, a diagnostic curettage should be done. If the information obtained is not conclusive, an exploratory laparotomy should be done immediately.

References

1. Parsons, Langdon: Carcinoma of the fallopian tube; *New England Journal of Medicine*, 221:10, 367-375 (September 7) 1939.
2. Wharton, L. R. and Krock, H. H.: Primary carcinoma of the fallopian tubes. A series of fourteen cases. *Arch. Surg.*, 19:848-870, 1929.
3. Barrows, D. N.: Primary carcinoma of fallopian tube, with report of three cases. *Am. Jour. Obst. and Gyn.*, 13:710-719, 1929.
4. Anspach, B. M.: Early diagnosis of adnexal cancer. *Am. Jour. Obst. and Gyn.*, 20:571-581, 1930.
5. Wechsler, H. F.: Primary carcinoma of fallopian tubes. *Arch. Path. and Lab. Med.*, 2:161-205, 1926.
6. Johnson, W. O. and Miller, A. J.: Primary carcinoma of oviduct. *Am. Surg.*, 93:1208-1214, 1931.
7. McGlinn, J. A. and Harper, W. B.: Primary carcinoma of the oviduct. *Surg. Gyn. and Obst.*, 26:354-360, 1933.
8. Martzloff, Karl: Primary carcinoma of the fallopian tubes, *Am. Jour. Obst. and Gyn.*, 40:5, 804-821, 1940.

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Intermenstrual Administration of Estrogens

E. C. Hamblen, W. K. Cuyler, and G. J. Axelson, Durham, N. C., in Studies on Corpus Luteum Metabolism (*Endocrinology* 28:72 (Jan.) 1941) state that the following deductions in regard to the effects of intermenstrual administration of estrogens are warranted: (a) estrogens, when given orally in total cyclic doses as great as seventy-five thousand rat units and when therapy is begun as early as the sixth day of the cycle and concluded at or about the time of expected ovulation, fail to depress corpus function; (b) estrogens, when given intramuscularly in these amounts and in smaller doses, may enhance corpus luteum function; (c) the clinical responses in dysmenorrhea and other conditions reported from this form of therapy are more likely due to the latter action; (d) if estrogens are capable of inhibiting ovulation, larger doses than those employed by us are necessary.

THEORY OF THE ACTION OF REDUCING AGENTS ON THE SKIN

An Explanation of How the Same Agent Acts to Stimulate the Growth of the External Horny Coat and Remove the Overgrowth of the Same Layer.

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The fact that the same chemical agent appears to act in exactly opposite fashion depending upon conditions of application has long troubled the prescribing physician. For years, as an example, salicylic acid has been prescribed in the dermatological clinics to stimulate the growth of epidermis or cuticle on the surface of the skin of babies with eczema. Just as long, the same product has been applied to remove the thickened epidermis of a corn or callus.

Lassar's paste, which is a salve or ointment composed of zinc oxide, starch, grease and salicylic acid, has been applied in infantile eczema and used for a variety of other purposes. It actually operates to restore the denuded epidermis. Its active ingredient is salicylic acid. For a long time, a salve with exactly the same ingredients has been an effective corn remover. In other words, salicylic acid is offered for exactly the opposite service to which it was put in Lassar's paste.

The difference between the two actions lies in the concentration of salicylic acid in the mixture. In Lassar's preparation it is two percent; in the corn and callus remover it is twelve percent.

So far, the explanation has been familiar. But what is the *modus operandi* and how is the physician to determine what proportion of salicylic acid he requires in a prescription? Surely no one wants to prescribe a corn remover which merely thickens the corn, nor by the same token does he want an eczema remedy operating in reverse.

Salicylic acid has been mentioned as a type of a considerable list of chemicals and drugs acting as reducing agents. They remove oxygen from the tissues. The list might be extended almost indefinitely. Other typical reducing agents, in common use for the skin and scalp, are active sulphur, a very popular prescription ingredient; the tars, as pine tar, crude tar and even oil of cade; the phenols, including menthol and resorcinol.

The effectiveness or strength of the reducing agents depends upon their removal of oxygen from the tissues, according to the late Paul Unna. Naturally, oxidation and reduction are reciprocal actions. They are constantly at work until a balance is struck, and, in theory, continue to operate even after that point is reached. Their effectiveness, to some extent, depends upon the speed with which this supposed balance is reached. This is pure theory.

In practice, salicylic acid (as a type) acts to remove oxygen from the tissues of the skin. The skin is a very intricate organ. It has oxygen and it gives up oxygen, but the end result depends not only upon this fact, but upon other factors as well. One factor is the concentration or dose of the salicylic acid in the application, and another factor is the condition of the skin to which the chemical reducing agent is to be applied. Thus we have normally four factors to be considered. They are: 1, weak concentration of reducing agent; 2, strong concentration of reducing agent; 3, unbroken skin with unexposed cutis; 4, broken skin with exposed cutis.

Effects of Reducing Agent on Skin

The effects of a weak concentration of a reducing agent on the unbroken skin are as follows:

1. Thickening of the horny layer; this is the outermost epithelial layer.
2. The horny layer becomes darker in color.
3. There may be itching.
4. Any inflammation is removed because there is a permanent narrowing of the superficial skin blood vessels.
5. Any fluid which lies in the skin tissues in the form of edema is removed.

This action is limited to the epidermis as long as the cutis is not exposed. Exposed cutis or "broken skin" leads to further reactions, to be described later.

The effects of a strong concentration of a reducing agent upon the unbroken skin are as follows:

1. The horny layer becomes thicker.
2. The horny layer darkens in color.
3. There may be pain, but seldom itching.
4. Inflammation is induced because the walls of the capillaries lying closest to the skin surface are damaged, permitting the flow of fluids into the tissues.
5. This fluid is now free in the skin tissues. It collects in tiny blisters (vesicles) within the prickle cell layer. These blisters lie within the epidermis immediately below the granular layer and the fluid acts to divide the thickened, damaged, darkened horny layer from the foundation of living, vital cells. The horny cells lift off and the corn or callus is removed. But the horny layer was thickened and darkened before it was lifted off!
6. Since the thickening of the horny layer cannot be purely an isolated or local reaction, we find associated with the thickened horny layers a thickening of the preceding layers of granular and prickle cells. The action of the strong concentration of reducing agent is to bring about a diminution of the thickness of the living, vital, reproducing cells, and their retained cell outlines within the epidermis beneath the horny cell layers. This is technically known as acanthosis, which means a thickening, broadening and widening of the epidermic peg.

This brief outline is intended to show the relationship and connection of the horny layer with those immediately beneath it. The horny layer has no life. It cannot thicken by itself. It is thickened through its retention of the substance of the preceding cell layers. The reducing agent, in effect, makes these cells a part of the horny layer by removing their oxygen.

The connective or collagenous tissue of the true skin is softened by the strong concentration of reducing agent. The action on the blood vessels and on the chemistry of the true skin tissues due to the withdrawal of oxygen tends to reduce hardening of the true skin in thickening of chronic skin conditions such as eczema and in overproduction of scar tissue and keloids.

(*Continued on page* 293)

Symposium on Internal Medicine

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THE THERAPEUTIC VALUE OF RECOGNITION OF NEUROSES

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Philadelphia, Pa.

Interpretation and proper evaluation of morbid phenomena of an apparent organic nature present problems not only of an academic but also, and especially, of a highly practical import. An analysis of some of the observations, about to be described, had for its object a consideration of the manifestations which have proved to possess no material substratum, and have, therefore, led to logical therapeutic procedures and a successful termination. It will be shown that simulation of an organic clinical picture, of which the patient is unaware, is nothing else than an escape from problems of reality. It will be seen that a conspicuous neurosis, in spite of its multiple bizarre phenomena, may be associated with integrity of intellectual functions, with preservation of an attitude apparently in conformity with communal life, with perfect ability to observe and describe the disorder from which the individual suffers, and which he himself is inclined to consider as an invading foreign element totally different from his own usual characteristics.

The cases will also show with great emphasis that the essential features in a neurosis have reference most fundamentally to the affective functions (sentiments, emotivity) and not to the intellectual status. The correctness of this contention can be seen with almost mathematical precision from the course of events and the termination of the cases about to be described.

Case Reports

Case I.—C. M., a middle-aged woman, had been complaining for two years of paroxysms of pain in the left side of the thorax, radiating to the left shoulder and arm. The pain was particularly noticeable almost immediately before meals. It became so frequent that she had to give up all attempts at housework. A careful survey for an organic etiology of the left-sided disorder was entirely negative. There was no cardiovascular lesion. An x ray of the chest showed normal position and size of heart, aorta, and lungs. Blood pressure was 132 over 80. The blood picture was normal. There was no focus of local infection. Two suspicious teeth were removed. The tonsils and the entire nasopharynx were found intact. The patient's previous medical history failed to reveal an organic constitutional or hereditary factor of significance.

In spite of the severe pain the patient appeared well nourished; indeed, she partook of three meals a day and slept well. On the other hand, she regretted very much that she was prevented, by the attacks of pain, from doing her own work. She was anxious to be busy, as her husband was too poor to engage a servant, and her four children needed her attention. Medical advice was sought in various hospitals and of private physicians. The invariable diagnosis was angina pectoris, but the usual remedies employed in this serious affection actually aggravated the patient's condition.

Further investigation revealed that during the fifteen years of her married life she was never happy. Her husband was extremely jealous of her and did not permit her to go out and associate with others. He was unkind to her, and at times treated her brutally. He was taciturn, rarely speaking to her or to the children. His monetary allowances were extremely small and she had great difficulty in meeting the household expenses. Her few friends occasionally called on her, but her husband discouraged the visits by his unfriendly attitude towards them. She envied them, because they could go out and were happy in their domestic life, while she was deprived of any attention, kindness, and diversion of any sort. She felt extremely unhappy. The husband became gradually more and more exacting, and the children had their own outside interests and paid no attention to her. She felt isolated: she had no friends, no affection from her husband, and lack of attention from the children. She worked from morning to night. She worried over the situation, gave it considerable thought, but found no escape.

During the examination she mentioned, with great emphasis, the fact that on a number of occasions she had wished that a serious illness would attack her so that she could be taken away from home in order to get rid of the monotony of her existence and of the hard work. Once, after a series of continuous quarrels with her husband which lasted two or three days, and after a very poor night, she awoke early in the morning with pain in the left arm. It is to be borne in mind that the patient was left-handed and the maximum of effort in her housework was carried on with the left hand. The pain disabled her. On the next day she could not do her usual amount of work. The pain persisted. Her household duties were greatly neglected. Her husband became still more abusive, giving no credence to her

complaints. Violent scenes followed. Promptly the area of pain became extended and reached the left shoulder and thorax. The patient worried over the situation greatly. Medical attention gave her temporary relief, but the intervals were brief.

During a period of eighteen months a dull pain was present, but in addition to it she had paroxysms of sharp pain. The latter occurred exclusively upon rising from bed in the morning and during the entire forenoon when the main heavy work had to be done. Because of the character and localization of the pain, a diagnosis of angina pectoris was made, and an unfavorable prognosis was given to the patient and her family. The diagnosis was maintained in spite of the fact that all possible investigations mentioned above with regard to a structural etiology were negative. She was treated accordingly, but no improvement could be obtained. The patient continued to suffer and became greatly depressed. She feared sudden death.

A renewed study of the case, with special emphasis on the psychiatric angle, in view of the repeated negative somatic findings, threw considerable light on the source and origin of the persistent pain in our patient. The close personality study, and all the environmental factors during her entire married life, long before the date of the appearance of pain, revealed with an extraordinary clarity the evolution of the entire picture. It was evident that during a period of fifteen years the patient had lived in the midst of conflicts between the unconscious wishes and the conscious forces. Since the latter could not prevail, the former got the upper hand and produced a physical condition which took her out of her intolerable situation and gave her a possibility of escaping from her work and of the daily drudgery. The pain in her left and stronger arm was the reply to her inner unconscious wishes and to her inability to find a solution to her frequent self-questioning, "What to do?" Repeated and prolonged conversations with the patient, with reference to all the events which led up to the pain as a physical escape, opened up in the mind of the patient a totally different viewpoint on her illness, with the most satisfactory results. It is now the sixth month that the patient has been free from pain.

CASE II.—C. D., a girl, twenty-seven years old, a stenographer, but of superior intelligence and higher education than the average woman (she is a graduate of Bryn Mawr College), was compelled to accept a fifteen dollar a week position in order to help her two small sisters. Her parents died shortly after her graduation. The surroundings in the office and the work itself were very distasteful to her. She complained bitterly but held on to her position and bent every effort to overcome her hatred for it, as she was compelled to keep her position.

At the end of the first year she commenced to complain of severe headache, accompanied by dizziness, extreme nausea, and photophobia. The pain was confined to one or the other side of the head. The paroxysms in all their details simulated migrainic headache. The sudden onset early in the morning, the gradual aggravation during the day, vomiting towards evening, complete disability for work, and finally profound sleep; such was the clinical picture. At first the attacks occurred only twice a week, but later daily, so that she had to ask for a leave of absence for two weeks. During the first week of rest the condition improved, and in the second week there were no attacks of headache. The day before the resumption of her work she had one unusually severe attack.

As the distressing condition returned, the patient became alarmed. All previous medicinal treatments were of no avail. Two physicians mentioned to her the possibility of brain tumor. From this viewpoint she was examined but not a single symptom suggestive of a neoplasm could be ascertained. She had even encephalographic studies made, but nothing abnormal was found. On previous occasions she had several surveys of the gastrointestinal tract including chemical studies. The eyes and other cranial nerves were found intact. In spite of the attacks of headache, she felt physically well, was able to eat and sleep. She went to the office regularly and information reached me that, while the headache was present, she was able to do her work correctly. The patient feared she was developing a brain tumor and at each recurrence of pain she hastened to the oculist to determine whether or not eyeground pathology became evident.

An effort was then made to view the patient's condition from a psychiatric angle. Her family history and her own history were obtained at length. The above mentioned hatred of the stenographic work, while through her educational opportunities she was prepared for an occupation of a higher order, was the most conspicuous affective disorder. It is interesting to observe that the burden of her domestic responsibilities and her insufficient salary did not preoccupy her greatly. The fear of an intracerebral disease was gradually added and a state of extreme anxiety developed. She related also that in her dreams she saw herself frequently carried away to unknown regions but of a highly interesting character. In another dream she saw herself in a large library where she could select books of the highest kind. In still another dream she found herself giving lectures on art and literature.

It was evident that although she continued her work of stenography, her repressed wish was a continuous strong longing for a better and a more suitable position. This longing was fulfilled in her dreams and it had such a strong affective power as to assert itself in her conscious state in some conspicuous form as to take her away at least for a few hours from her despised work. The physical manifestation was severe headache with other distressing symptoms. It was a conscious physical substitute for the affective conflict. This analysis was repeatedly presented to our intelligent patient. Disappearance of all manifestations followed.

Comment

In the first case we deal with an objective phenomenon simulating angina pectoris of long duration which could not be removed by medicinal therapeutics. The second case presents objectively the picture of attacks of migrainic headache which persisted and could not be relieved by medicinal agents. In each of the two cases no organic etiological factor could be detected in spite of most careful investigations. On the other hand, we do find a direct relationship of the physical morbid manifestations to the affective disturbances in the midst of which each of the patients lived and which they were compelled to endure. We also find that each patient conserved throughout the illness the power of criticism, comprehension, memory, and all the intellectual facul-

ties. We also observe in the relationship of the three patients to their disturbances a good analogy with morbid states produced by a persistent influence of some chronic intoxicating agent.

It seems, therefore, that the apparent angina pectoris and the migraine in our two patients, respectively, were a response, not to some material damage done to the viscera which ordinarily creates those manifestations, and not to an invasion of intellectual faculties causing a mental deviation from normal, also not to intentional simulation for some special egotistic gain, but were a response to some hidden unconscious factors which had something to do exclusively with influences of an emotional character. The latter were so strong that in the struggle for adjustment the patients' conscious forces could not resist and succumbed under the constant bombardment of the affective elements, of which the victims were not aware.

The persistence and the enormous power of the emotional forces can also be seen in the dreams of the last patient. In the case of the educated girl, who was placed in a position with a highly distasteful occupation, she saw herself in the dreams carried away to unknown regions where the surroundings were beautiful and where she was enabled to give full sway to her intellectual urges and cravings. From the duration of the disorders in each of the cases, it was evident that the hidden emotional forces held supremacy over the conscious state and since some kind of adaptation must take place in daily life, here it took the form of a compensatory state which would remove the individual temporarily from her intolerable situation by substituting the latter with some physical manifestation. These replacement-phenomena may be in the form of new undesirable manifestations, but nevertheless there is relief from former persistent disorders. They ordinarily remain an indefinite time until the sufferers are given a possibility of bringing to the surface the concealed emotional forces and then a logical interrelation between the two struggling forces, namely, conflict and disease, are put in evidence.

This is precisely what occurred in the patients under discussion. The character of the disorders, their persistence, their duration, their total independence from any possible underlying structural causative factors, their intimate association with purely emotional factors, and total lack of association with purely intellectual factors, which were intact, finally their triumphal termination with a special therapeutic procedure without medicinal interference, all these circumstances render the subject of substitution, compensation or conversion in the study of neuroses, not only fruitful from the scientific viewpoint of human behavior, but also from a practical point of view.

The mechanism of neurosis consists, therefore, of a projection of unsettled psychic states on different parts of the body.

In conclusion, I believe it will not be superfluous to reemphasize the fact that behind multiple somatic disturbances not infrequently "conflicts" unknown to the individual play the most conspicuous causative rôle.

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THE RELATION OF THE MEDICAL MAN TO THE NEUROTIC PATIENT

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Because of the great advance in medical knowledge in recent years it is becoming increasingly impossible for one man to master the whole field. The specialist has become a necessity. Because of this it is very difficult for the physician to have a picture of the patient as a whole.

Thus to the gastrointestinal man the patient may be a stomach and intestines; to the nose and throat man he may be a nasopharynx, and so on. In short, in becoming a specialist the medical man has lost something which made him in the past a unique and powerful character in society. The old family physician knew his patients from the time of their birth, sometimes until their death. He knew their natures, their problems. He advised them about marriage, he helped them with their children. He knew that all of this was important and that for some reason his patient depended upon him as they depended upon no other human being. Some of his functions he shared with the clergyman.

Today, not only has the physician in becoming more of a specialist tended to be less concerned with the general welfare of the patient, but religion also has lost some of its power, and the patient as a total individual often has no place to turn in search of understanding.

When the patient is acutely ill with pneumonia, for example, his chief demand of his physician is his special skill. He is not much concerned with the doctor's sympathy or psychic understanding. His own life problems are temporarily of little concern to him. A large group in the medical man's practice, however, have another need. They do not find in the careful physical examination the reassurance and security they seek. Moreover, the most thorough scientific tests usually reveal no organ in need of treatment. Yet these people are clamoring for treatment.

The neurotic patient makes up about fifty percent of most medical practice and yet methods for his care are hardly discussed in many medical schools even today. Psychiatry, as it is taught, deals chiefly with the diagnosis and treatment of the psychoses. The average everyday problem of the neurotic patient who comes to the internist or surgeon is discussed, when discussed at all, in a superficial way. The medical man, therefore, often does not understand what these patients are really seeking from him, what he can actually do for them and what is the nature of their peculiar type of dependence on him.

Thus these patients offer a challenge which the medical man feels unable to meet. In other words, when he tries to deal with the problem he feels inadequate. The feeling of inadequacy is itself an additional hazard in the undertaking. Since nobody likes to feel inferior the

impulse is always to try in some way to get rid of the feeling. One of the ways to be more comfortable is to rationalize. By this we mean covering up something by a false but plausible explanation. For instance, a woman of mediocre ability often explains her lack of success in life by believing there is discrimination against her because she is a woman. This in her case is at most only partially true, but it is a comforting idea to her and protects her self-esteem.

Rationalization

The rationalization which doctors often make concerning their feeling of nonsuccess with neurotic patients is some form of blaming the patient. They say he is uncooperative, or made of inferior stuff, or a weak character. A feeling of contempt for him is all too frequent. A physician receiving a panic call from a chronic neurotic is likely to make a disparaging comment about the patient to the nearest convenient listener, whereas an emergency call from a nonneurotic patient immediately rouses professional concern and a sense of responsibility. One may say that in the second instance there is something for the physician to do, while in the first case it will be a waste of time. Would it not be more accurate to say that in the second case the physician knows what to do, and in the first case he has a feeling of helplessness because he does not know what to do. To be sure he will do something but he does not know very clearly why he does it and he has a feeling that it is just luck if it works.

For instance, sometimes the patient improves immediately under reassurance, especially if the reassurance is accompanied by a thorough physical examination, but usually in a few months he is back again with a new complaint.

Sometimes the patient persists in no improvement from the outset. He does not believe the statement that nothing is wrong. He either goes from one physician to another seeking confirmation of his fear, or he clings to the first physician for some strange reason. He seems to find some grim satisfaction in coming back week after week to report no improvement. The physician becomes increasingly annoyed, and begins to wonder if he is not accepting money under false pretenses. He begins to run down the patient in his own mind and may end by completely losing his temper and driving the patient away. The whole situation leaves the physician feeling secretly humiliated.

Types of Treatment

There are two general types of nonpsychiatric ways of dealing with neurotic patients, in general use. One method is by reassurance. This may be given as simple suggestion or it may be reinforced by placebos.

The second type of treatment is an attempt to reduce the patient's problem to organic terms. There have been various fashions in this. At one period it was autointoxication, at another focal infection, and surgery has always been popular. Today, about three fields carry the burden of the neurotic patient's demand for treatment. One can tell him he has an allergy, an endocrine disturbance or a vitamin deficiency. There is no intention here to deny the importance of these genuine organic conditions, but to point out that in addition, since many of the symptoms resemble neurotic symptoms, the temptation is to hope that the two conditions are identical and to treat the neurosis accordingly. Certain types of patients always improve under this treatment. It takes away the stigma of being neurotic and assures him of the physician's interest. Here again, however, the cure usually is not lasting.

An increasing number of physicians today are attempting psychotherapy with neurotic patients. They are very often handicapped by inadequate training in the procedure. An occasional medical man at the present time is sufficiently interested to study psychotherapeutic methods and undergo training in the use of the techniques. The majority, however, do not desire such a degree of special training.

The nonpsychiatrically trained medical man can do a real service for many neurotic patients. The old family physician helped many by methods which can be equally effective today. An intelligent interest in the patient's total personality is very important. One must divorce oneself from the idea of organ therapy. A person suffering from indigestion may not need to have his stomach treated at all. A little persistent inquiry may show that he is suffering from chronic resentment in an unhappy marriage. Surprisingly often the patient knows what is really troubling him. He had not mentioned it because he had supposed it was of no concern to the doctor.

For example, a woman suffering from chronic diarrhea had been treated without success medically. Her problem proved to be a chronic anxiety due to excessive ambition. She was driven constantly by a necessity to be outstanding and admired above everyone. When this drive which pushed her night and day was understood and became diminished her diarrhea disappeared.

Such is the type of information which the patient will give if he is encouraged and the relief he will obtain from the discussion will relieve his condition more than placebos can.

It is clear that it is essential for the physician to discard the idea of the separation of body and mind. The two in reality are one whole. Today we are beginning to prove that even many diseases with demonstrable organic changes are profoundly influenced by repressed emotions and can be greatly improved and in some cases cured by psychoanalysis. Gastric ulcer, hypertension, hyperthyroidism and asthma are some of the diseases which have been satisfactorily influenced in this way. In cases of such a nature the medical man must work with the psychoanalytically trained psychiatrist, for simple psychotherapeutic methods are not effective here.

It is not necessary to enumerate the types of neurotic complaints which are presented to the medical man. They are legion. Occasionally even a psychosis with somatic delusions appears, but the latter is usually easily recognized and turned over to the psychiatrist. There is a general feeling that the neuroses are mild disorders and therefore any of the above described methods may be used with good results. This is not true and it is important to realize that not all neuroses are equally accessible to cure even by the most advanced psychiatric methods.

A headache in one type of individual may quickly improve; in another type no change takes place under any form of treatment. More important than understanding the symptom is understanding the nature and goals of the neurotic drives.

Three Groups of Neurotic Patients

The neurotic patients who come seeking help can be divided into three groups in relation to their response to treatment.

The first type is very responsive to any form of treatment. He is usually a likable and rather superior person. He is an individual who in spite of great difficulties has always done the best he could. He does not parade his symptoms nor exploit them for sympathy. In fact, he often conceals his difficulties even from his best friends. This type of patient tends to improve under any sincere effort to help him.

The other two types of neurotic patients do not improve, but their failure to respond to treatment is for different reasons.

One type does not improve because life actually offers no reason to get well. For example, an unattractive virgin of forty years, unless she has unusual work interests may wake up one day to the realization that life has passed her by. She does not come to the physician because she wants to be cured. Her illness is really her interest in life, and the phantasies she develops about her relationship with the physician may be the most interesting things in her life. One can actually make such a patient's life bearable by a kindly tolerance of her dependence. Sometimes, because of the physician's interest in her development she can be encouraged to find a few new satisfactions but she will probably always need support.

The other type of neurotic patient who seldom improves is the one in whom revenge is a very important motive. For example, the wife who through her misery and complaints constantly keeps her husband feeling guilty for something or other cannot afford to lose her neurosis. Although she may not be aware of it she probably sought help in the hope of reinforcing the idea of the seriousness of her condition. Reassurance really annoys her and one day she will try to humiliate the physician as she does her husband. She will tell her friends that he is incompetent, she may even imply that he did her harm. For her the one essential is that the treatment should never be successful.

In short, in this miscellaneous and very diverse group called neurotic patients, we find the noble neurotic who really seeks help, we have the lost souls who have no hope of help, and we have the malicious neurotics whose predominating tendency is destructive both of themselves and of anyone who becomes involved with them. If an evaluation of the prognosis can be made early in the treatment the medical man may often save himself useless effort and a feeling of defeat. One can then realize that even in apparently simple neurotic cases there is sometimes adequate cause for failure to cure, quite apart from any skill or lack of skill on the part of the physician.

Transference

Finally it is important to consider the very special type of attitude which the neurotic patient develops towards the physician. This attitude is no different in kind from that which all patients tend to have, but it is much more outspoken and intense.

Freud was the first to describe this attitude and he gave it the name transference. Transference is usually found when an individual is in a relationship where he is dependent upon the other person. It occurs pretty generally in the doctor-patient relationship everywhere, but especially in the case of the neurotic patient.

Transference is characterized by being irrational, by springing up without provocation on the physician's part. He has but to exist and the patient attributes marvelous qualities to him, or he exists and the patient concludes he is a scoundrel.

Extravagant admiration and confidence in the physician is a frequent attitude of neurotic patients. One such stated that she would jump off the Empire State Building without hesitation if her physician told her to attempt it. Such blind submission giving one a god-like quality usually swings to its opposite extreme in time. This same patient later lost confidence in the physician, got all her old symptoms back, and was in despair for many months. The turning point was the failure of the physician to respond in a way the patient desired to a gift. This was an extreme case. Most of the transference reactions of patients are reactions to the physician as an authority. We are the descendants of the witch doctor. His authority was such that by putting a spell on an individual he could cause that person to die of fright. The medical profession is still endowed with power amounting almost to magic in the eyes of some people.

Accordingly, the patient brings to us his habitual attitude towards authority. If he is a person who is always submissive to people in authority, his employer, his parents, the policeman, etc., he will be submissive to us. He will do and believe everything he is told. Even if the advice turned out to be wrong he would still try to follow it. Such a patient is very flattering to the physician who may be tempted to think the cooperation is based on real appreciation of his skill. Something of real appreciation may be in the attitude but if we accept the whole thing at its face value we shall be greatly distressed when quite irrationally the patient one day becomes angry, doubts our ability and criticizes all we have done for him. This must be accepted as dispassionately as we accept his admiration.

If on the other hand the habitual attitude towards authority is one of defiance we shall meet that in his relation to us. If we do not understand about transference it will puzzle us as to why a patient comes, asks advice, pays for it, and does the opposite.

One of the very important types of the transference problem with which the physician must deal is the tendency of the female patient to fall in love with him although he has done nothing to provoke such a reaction. It is especially important to recognize this as fake. It may have various meanings. It may be an attempt on the part of the patient to get herself a permanent doctor, one who will indulge and baby her. She thinks loving him will cure her. Sometimes it has a less innocent purpose. The patient wants power, she wants this important man in her clutches. If she is the revenge type, as I have already described, she wants him there in order to get even with all men for something. In any case it is not true love and the physician must remain detached from its fascination if he is to help the patient.

Adequate dealing with the problem of transference is the central problem of psychoanalysis and its interpretation should not be attempted by an inexperienced person.

The important thing for the medical man to remem-

ber about it is that it exists and that because of it he has great emotional value to the patient. This means that he has great influence and great capacity to hurt. Most of all it is important not to become involved in the patient's attitudes. We must be equally objective about their love and their hate.

The medical man, in becoming a specialist, is in danger of losing an understanding of the patient as a whole. This especially puts him at a disadvantage with the neurotic patient. Much can be done by a return to consideration of the total person. Certain prognostic criteria and an understanding of transference are helpful guides.

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MODERN CONCEPTS OF THE PROBLEM OF IMPOTENCE

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Sexual potency results from the combined action of the endocrine system, the nervous system and the genital organs. The endocrine glands affecting potency are: the gonads, the anterior pituitary, the thyroid and the adrenal cortex. The gonad is the dominating gland. The hormones which it sets free "eroticize" the whole sex apparatus from the cerebral cortex to the genital organs. The term "sex apparatus" is used here in a broader sense, as a functional unit. From the erotically stimulated cerebral cortex erotic impulses radiate and are directed by the centers in the midbrain (where the sensory stimuli are transformed into motor stimuli) to the erection and ejaculation centers in the spinal cord. Thence the stimuli travel on by way of the vegetative nerves supplying blood vessels, glands and muscles to the end-organs, the genitals.

The causes of impotence are best understood by looking at them from the dynamic point of view. Potency may thus be represented as the resultant of "charge" and "resistance". We may compare it to electrical energy, which is likewise determined by the elements of charge and resistance, as is well known. To obtain a definite quantity of electrical energy one may either increase the charge or lessen the resistance. The same holds for potency, which also depends on charge and resistance. Both these components are essential to any sexual activity. In all sexual action what is present is not merely the charge—the sexual urge—but also a more or less conscious resistance that must be overcome.

When disturbances of potency occur, we should consider them as disturbances in the proper ratio between charge and resistance. There may be either too great a resistance for a normal charge, or too small a charge for a normal resistance.

By "charge" is meant the "irrigation" of the sex hormones through the various parts of the sex apparatus, promoting a state of tension and creating an "erotic" effect in the sex centers in the brain, the spinal cord and the peripheral organs (sex ganglia, erection and ejaculation musculature, secretory glands of the genitals, etc.).

But the hormonal effect depends not only upon the quantity and quality of the hormone itself but upon other factors as well, the responsiveness of the receptor organs to the hormone and the composition of the blood (water, electrolyte, sugar content, pH, etc.), which conveys the hormone from its point of origin to the receptor organs. These very complicated factors are only now beginning to be investigated and offer a vast field for further research.

All these factors are largely influenced by the nervous system. The hypothalamic centers and the autonomic nervous system regulate the production and release of the hormone. Stimulating or inhibiting nervous impulses reach the receptor organs and may modify the effect of the hormone. The composition of the blood and body fluids is likewise regulated by the neurohormonal or autonomic system.

To our way of thinking the erotic excitation of the cerebral cortex by the hormone means that the psyche is made receptive to erotic impressions and images. But apart from the endocrine effect, there is in all likelihood a marked variation in the psychosexual constitution of the individual which may be congenital in origin, and a corresponding variation in the degree of acceptance or resistance of the psychosexual associations. This is not the place to deal at length with the problems of coordination and subordination between the psyche and the incretory apparatus in the creation of sexual charge.

Disturbances of potency due to diminished sexual charge may therefore depend on changes in any of the factors that have been mentioned.

"Resistance" is everything, mental or physical, that impedes the normal course of the sexual process from the center to the periphery. Typical disturbances of potency due to increased resistance are, for example, those forms known as psychic impotence. They are frequently due to exaggerated fear of infection; also to ethical, religious or esthetic inhibitions, and doubts as to one's sexual ability, especially when confronted with the task of a first connection.

There is a general tendency to attribute the principal causes of impotence to increased resistance. Our experience, however, has shown that the purely psychic factor may sometimes be overestimated and that in many cases considerable importance must be attached to the hormonal charge factor. In any event, one must always take into consideration a combination of resistance and charge impotence, even in cases where the clinical picture is primarily one of psychoneurotic changes. Psychic inhibition, which, of course, always arises after unsuccessful attempts to consummate coitus, often serves to obscure the diagnosis of impotence. One should never be permitted to overlook the constitutional factor and impairments of endocrine function (in cases of infantilism, eunuchoidism, hypopituitarism, etc.). Recent systematic investigations reveal that seventy-six percent of psychoneurotic individuals show stigmata of endocrine abnormality, chiefly of the pituitary ("endocrine associations").

Let us recall the customary classification of disturbances of potency and then analyze the significance

that must be attached to the charge and resistance factors in each group.

In terms of medical practice impotence is usually classified either as *organic* or *functional*.

In organic changes of the central nervous system or the peripheral organs the pathogenesis stands out sharply and clearly, and thus we need not discuss here the charge and resistance factors. It is different in disturbances of a functional nature, which may be further subdivided into *psychic* and *nervous* factors.

Psychic impotence, as has already been mentioned, impresses one immediately as an accumulation of resistance. In psychasthenic and neuropathic individuals characterized by excessive instability such inhibitions naturally interfere with the mechanism of potency. Yet such inhibitions are found even in patients without a trace of neurasthenia. The question obtrudes itself whether it is really the inhibition that is so strong here or whether it may not be that the urge is so feeble that the slightest obstacle in its path appears insurmountable. In other words, because of the reciprocity between resistance and charge may not the strength of the resistance appear accentuated by the weakness of the charge? Practical experience, after all, teaches that individuals with strong ethical, religious and esthetic inhibitions often manage to overcome this resistance and attain normal potency despite a frequently psychasthenic constitution—a phenomenon that must in all likelihood be attributed to a strong charge.

Nervous impotence, which is often a local sign of general neurasthenia, generally results from excessive masturbation, coitus interruptus, masturbatio interrupta and other sexual excesses, probably owing to exhaustion and the decreased excitability of the erection center and the peripheral ganglia. The nervous impotence of a neurasthenic individual represents a decreased responsiveness to the charge that is present and consequently an increase in resistance. Real "charge impotence" is due to the insufficiency or ineffectiveness of the gonadal incretion (dyshormonal impotence). It is caused by disease, afflicting either the gonads themselves or other endocrine glands, such as the anterior pituitary, the thyroid, the adrenal cortex, etc., which, owing to their close relationship to the gonads, may affect the endocrine gonadal function, or it may be caused by disorders of the autonomous nervous system and the hypothalamus, which control the reciprocal action between the glands, the body fluids and the receptor organs.

Summary of Causes of Impotence

I. Disturbances of charge may depend on:
  A. Insufficient incretion of the gonads owing to
    1. Mechanical damage through injury.
    2. Chemical damage through poisons, such as alcohol, nicotine, cocain, morphia, etc.
    3. Bacterial damage through various infectious diseases.
    4. Nutritional deficiencies, lack of vitamins, especially vitamin E, minerals, etc.
    5. Mental and emotional strain.
    6. Presenile or senile exhaustions.
    7. Tumors of the gonads.
    8. Congenital hypogonadism or arrested development, such as eunuchoidism, infantilism, adiposogenital dystrophy, cryptorchidism, etc.
  B. Diseases of other endocrine glands, particularly the anterior pituitary, the adrenal cortex, the thyroid.
  C. Changes in the composition of the blood and body fluids and decreased responsiveness of the receptor organs to the sex hormone due to nutritional, climatic, chemical factors or various diseases.
  D. Diseases of the hypothalamus and the autonomic nervous system.
  E. Abnormalities of the psychic constitution, which may also be related to the creation of the sexual charge.

II. Disturbances of resistance may depend on:
  A. Increased resistance through mental factors, particularly:
    1. Fear and other detrimental feelings, such as lack of self-confidence, etc.
    2. Ethical, religious or esthetic inhibitions.
  B. Increased resistance through organic diseases, particularly:
    1. Diseases of the central nervous system, e.g., general paresis, tabes, certain types of sclerosis, syringomyelia, lues cerebrospinalis, etc.
    2. Peripheral diseases of ganglia or nerve tracts, e.g., through mechanical, bacterial or toxic injuries, as from nicotine, lead, cocaine, etc.
    3. Diseases of the prostate and colliculus seminalis.
    4. Penile dysfunction of mechanical origin, as hypospadias, extreme smallness of penis, etc.
  C. Increased resistance due to conditions of exhaustion, particularly general and sexual neurasthenia, other weaknesses of the spinal mechanism, excessive physical exertion, etc.

Therapy

We now come to the question of therapy, of which only the general outlines can be given here.

The various forms of impotence described above should give a clear indication as to the therapy required, namely, when the charge is weak, increase the charge, when resistance is high, decrease the resistance. But no such sharp division is possible in practice. In nature, phenomena are not so sharply divided as in scientific theory. In most cases of impotence we meet with composite forms—a weak charge may be combined with an increase in resistance. Factors of psychic resistance invariably play their part. Every primary disturbance of charge is aggravated by inhibitions of various kinds, arising from repeated failures in attempts at coitus. On the other hand, as has been mentioned before, even those forms in which resistance stands out as the primary factor are often combined with disturbances of charge, indicated by endocrine stigmata. In other words, patients showing ethical, esthetic and religious inhibitions or fear of infection may show a tendency to infantilism, adiposogenital dystrophy, eunuchoidal disproportion between trunk and extremities, etc. Therapeutic procedure therefore must take both factors into account.

The therapy of increased resistance due to organic causes is well known and need not be discussed here. We are here limiting ourselves to a discussion of functionally caused inhibitions. The therapy in such cases consists of general treatment of the psychoneurotic condition. Treatment should be carefully individualized

and local urological methods should be applied but sparingly. (In twenty years of experience with more than three thousand cases we have observed changes in the colliculus and the region of the posterior urethra in only seven percent of our cases). In each case the cure to be prescribed must accord with the patient's psychic peculiarities, mode of life, sexual activities, etc.

Much stress must be placed on a precise recording of the patient's sex history. In this way it is sometimes possible to neutralize the affects repressed by shame and shyness, and to bring into the light (and thereby deflate for the patient) those inhibiting psychic factors—often lodged in the subconscious—that are at work. Psychoanalysis, treatment by suggestion, disguised by physiotherapeutic methods, as well as hypnotism, may occasionally be indicated under certain circumstances.

But such therapy which attempts to reach the underlying causes, rooted as it is in sound theory, is sometimes time-consuming, costly and not always successful. Long years of experience show that even cases of increased resistance may be effectively treated by increasing the charge, a shorter way to the goal. According to our conception of potency as the resultant of charge and resistance, we can achieve the same effect whether the charge is increased or the resistance diminished. It is the same here as in electricity, where resistance can be overcome by a strong electric charge.

Advances in the field of hormone research have now placed at our disposal potent preparations of the gonadotropic hormone of the anterior pituitary as well as those of the male sex hormone. We know that these hormones are capable of raising the anatomical and the functional state of the sex apparatus from sub-standard to normal and of bringing about an increase in libido and erections. In cases of overdoses we have on occasion actually observed conditions of priapism. Hormone therapy therefore can "charge" the sex apparatus to such an extent that even increased resistance may occasionally be compensated.

Let us, however, warn against noncritical and one-sided hormone therapy. Large doses of male sex hormone may inhibit the anterior pituitary activity. Hence the gonadotropic factor of anterior pituitary should be given in conjunction with the sex hormone. Hormone effect may furthermore be obtained not only by hormone therapy alone, but also by all other measures which will serve to influence the receptor tissues and the nervous system in a favorable way. In other words recourse must be taken to the entire field of hygienic, dietetic, electrophysical, and pharmaceutical therapy.

Details concerning the treatment of impotence, as it has been developed, must be reserved for a further publication.

728 PARK AVENUE

THE NOSE, MOUTH AND THROAT IN GENERAL PRACTICE

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The respiratory tract is well-known as a portal of entry in infectious conditions. In infancy most diseases find their origin either in the air-tract or food-tract. A few may enter the child's blood from the placenta of the mother, but the prenatal child is ordinarily "sterile" insofar as external surroundings are concerned. Immediately after birth, the child is exposed to many dangers latent in his new environment; among these are air-borne diseases and contact diseases.

Air-Borne Diseases

Most of the commoner diseases of infancy and childhood are air-borne. There is a wide distribution in the air we breathe of microorganisms, bacteria, bacilli, protozoa, etc. In fact, there is an eternal conflict between man and the microcosm. The elements of the battle are the brain and ingenuity of man against the "brute force" of Nature. It is extraordinary to contemplate what may be called the *intelligence of germs*. They resist all of our defences against them and sometimes successfully thwart our efforts to destroy them. Their hardihood is almost beyond belief. Many of them are housed in a capsule; others are the socalled "spore forms" which reproduce with amazing rapidity. They are capable of hiding away in the finer tissues of the body from which they cannot be dislodged. The natural effort of the body is to form antitoxins of various kinds against germs. In this, however, the body is often rather unsuccessful.

In childhood, it is worthy of note that the common diseases, such as scarlet fever, measles, diphtheria, whooping cough, chickenpox, and a few others, are all air-borne infections. The active, germ-cause of nearly all of these is known, excepting measles. The activity of these organisms may first be noted in the mucous membrane of the nose and throat, since it occurs here as a primary manifestation (enanthem) before it is seen as a rash on the skin (exanthem). Thus scarlet fever, which is due to a form of streptococcus, causes redness of the mucous membrane of the mouth, especially upon the tongue where the socalled "strawberry" appearance is manifest.

In measles, diagnosis may be made from Koplik spots seen in the mucous membrane of the cheeks.

In diphtheria a membrane appears in the nose, mouth or throat.

Whooping cough in its initial stage has the appearance of a cold, as do measles and chickenpox.

It is important, therefore, to examine the nose and throat of every patient in order that an early diagnosis be made.

Contact Diseases

Contact plays an important part in the spread of all infections. Germs are transferred readily from hand to mouth through toys, handkerchiefs, etc. Children who have watery eyes, running noses and who seem ill, who cough and sneeze as well as run a temperature, have frequency of urination or stool, should be sifted out from school classes, isolated and reported to the

health authorities. It is not enough to send such children home, for parents will do nothing about the condition, except send the child back to school as soon as they can, unless he be ill enough to go to bed.

There are two phases of this problem of contagion: First, we must protect the group from the individual focus or source of infection; second, we must protect the normal individual from the group, many of whom may be suffering from unrecognized "flu" or other like conditions.

Finally, there is the teacher herself who may bring, quite unwittingly, some disease into the classroom, which to her seems so minor as not to warrant absence from her duties. However, these minor unrecognized conditions do much more to spread infections than the severe type, which is readily recognized.

The Nose

Let us now consider the nose and its diseases. The nose exists for breathing, smell and resonance. It is often obstructed by growths, swelling and other conditions. Sometimes, old fractures and dislocation of cartilages cause difficult breathing. Again, nasal discharge, such as in an acute cold, causes obstruction to breathing. Excessive secretion always indicates irritation and inflammation of the mucous membrane. The character of the discharge, either watery or purulent, is determined by the degree of irritation or infection. Therefore, the number and condition of handkerchiefs helps in diagnosis. A heavy yellow discharge usually means sinus involvement. Repeated daily headaches may be of sinus origin. Socalled "throat trouble" is often due to postnasal discharge. Sinusitis and climate are often related as cause and effect; also sinusitis, alcohol and tobacco. These are not operative in small children, but in the upper school grades, tobacco especially, may be a pernicious influence. Foreign bodies in the nose cause a purulent discharge usually from one nostril. Any unilateral nasal discharge should arouse suspicion of a foreign body in the nose. Nasal hemorrhage in children is not infrequent and arises from picking at crusts on the septum or from blowing too forcibly. Simple cauterization of the bleeding area usually relieves this condition permanently.

The quality of speech may be dependent upon an open or closed nasal passage. For example, in colds, the voice is heavy and dull because it is improperly resonated.

Cleft palate speech, too, is peculiar in quality because of a defective hard palate. The voice is carried upward with a peculiar hollow sound. Cleft palate should be corrected surgically in early childhood. It is important, however, that postoperative speech training be carried out intensively.

Nasal deformities should be corrected by plastic surgery as early as possible in order that the nose may grow at a normal rate with the other bones, and structures of the face.

Hay fever and allied conditions are commonly considered together in these days under the term "allergy". Children with hay fever often suffer from lower respiratory symptoms as well as from nasal obstruction and watery discharge. It is amenable to treatment by specific vaccines, irrigations, drops, etc.

Adenoids are an important cause not only of nasal obstruction but of acute middle ear abscess as well. These are always associated with infected tonsils and it is remarkable what improvement in the local and general condition of the body occurs following operation.

The Throat and Mouth

The importance of studying the mouth and throat together, needs to be emphasized. The diagnostic importance of the mouth in infectious diseases has been mentioned, but there are conditions such as ulcerations, tumors and the like which are associated with malformed, unerupted and diseased teeth. There is, for example, the contracted palatal arch, which can be expanded if the teeth are regulated by a dental specialist. The specialty is known as *orthodontia*, and the specialist as an *orthodontist*. Deciduous teeth which become carious must be filled in order that they may be retained until Nature is ready to extrude them. Many children have swollen glands from diseased teeth, and not infrequently tooth extraction is followed by glandular enlargement due to a "stirring up" of the infection around the diseased tooth. Glands in the neck in children are often tuberculous in nature, especially in the colored race. Sinusitis and other infections of the upper air passages also cause enlargement of the neck glands.

As for the tonsils, these are four in number, corresponding to north, south, east and west. Adenoids are at the "north pole", the faucial or lateral tonsils at east and west, and the lingual tonsil at the base of the tongue is south. Together they are described as the Waldeyer ring. Any infection of these four tonsils will cause pain, sore throat, fever and general malaise. Acute follicular tonsillitis is the commonest of these, but second to it is quinsy or peritonsillar abscess. Often tonsillitis is confused with grippe or "flu", for in both conditions we have to deal with sore throat, fever, pains in the back, bones, muscles, etc. Quinsy is distressing, because of the inability to swallow, and the intense pain on one side of the throat. Prompt incision brings prompt cure. Occasionally, a physician diagnoses tonsillitis in a child who has previously undergone a tonsillectomy. Parents are often surprised and discouraged to learn that an infection may take place on tonsil stumps which is just as severe as any tonsillitis preceding operation. Any tiny piece of tonsil left behind after operation may hypertrophy and cause as much trouble as the original tonsil itself.

The relation of sore throat to rheumatic fever and heart disease has a special significance. Even after removal of tonsils and adenoids, sore throat may supervene. Granular pharyngitis may be responsible for sore throat, rheumatic fever and valvular heart disease. Upon looking into the throat one sees tiny elevations or mounds of tissue which are red and swollen. These are foci of infection and their presence should be made the subject of study by a throat specialist, if he has not already examined the little patient. Such foci must be thoroughly destroyed.

As to the time when a child may be allowed to return to school after tonsillectomy, from a week to ten days should be sufficient. Two weeks are usually required for complete healing. Where there is constant throat trouble, neither adenoids nor tonsils may be responsible, but there may be a postnasal drip or discharge from the sinuses which causes clearing of the throat and indistinctness of voice.

We sometimes hear the expression that "the palate is down". This means that the uvula is swollen from some local infection. It may increase to the size of one's finger and cause the feeling of a lump in the throat.

Temporary paralysis of the soft palate commonly comes on after diphtheritic infection, and one of the prominent symptoms is the passage of fluid through the nose upon swallowing milk or water. It is seldom of importance, as it clears up within a few days or weeks. Occasionally, however, it persists over a longer period of time.

The Larynx and Its Functions

The larynx is the source of speech and song. Voice production is much too complicated to enter into in an article of this kind, but certain high spots may be touched upon. The quality of the voice is often innate or hereditary, but is more often imitative. Members of the same family may, for example on the telephone, sound quite alike when speaking. Certain climatic influences are important. We notice, in this country, the difference between the "southern" way of speaking and the "northern".

There is at puberty a change of voice which is called "mutation", which is especially marked in boys, but it is also to be noted in girls. Sex influences become active as the individual changes from childhood to youth. The education of the singing voice in children becomes of importance, and it is usually conceded that singing should not be indulged in during this mutation period. Boys are sometimes retained by a choir master beyond the safe limit of time, and therefore may suffer vocal strain. This is probably the case with many boy sopranos who are phenomenal in their range and vocal ability, but who are seldom heard of in later years.

There are abnormal conditions in the larynx in children which need to be emphasized. One of these is chronic hoarseness, which often masquerades under the word "laryngitis", but no laryngitis from a simple cold should last longer than a few days at the most. If it persists beyond this period, we may suspect a condition known as *papillomata* or wartlike growths in the larynx. These, of course, must be removed surgically, but they have a remarkable tendency to recurrence. They alter the quality and volume of the voice. The influence of *diphtheria* on the larynx is well-known to all laryngologists. It is especially damaging to the vocal cords, and may cause a definite weakness of the voice in later life.

Foreign bodies in the larynx are common both in children and adults. Children have a way of putting pencil caps, tacks and other foreign bodies into the mouth, and sometimes, when breathing in suddenly, they aspirate the foreign body into the larynx, trachea, or bronchi. Because of this, a specialty within a specialty has been developed, which is known as bronchoscopy. The bronchoscopist passes a tube containing a very small light into the lower air-ways, and with suitable forceps removes the foreign body.

Finally, the influence of a beautiful speaking voice on life in general should be mentioned. This is something that may be acquired through practice, experience, and a desire to make the most of one's personality. In former times, the word used to cover this branch of knowledge was called *elocution* or *oratory*, but in later years the word "interpretation" is more commonly used. It is in itself a major subject, and must be taught by those specially trained in the production of voice, the influence of breathing and the effect of various vocal exercises in securing the desired results. Singing is now taught to school children in the lower as well as the upper grades, and knowledge of the larynx and its function is indispensable to the teacher who undertakes this important task.

140 EAST FIFTY-FOURTH STREET

THE ALLERGY PROBLEM

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Allergy is a malady of civilization. Modern life is geared to a high rate of speed. With increased comforts have come an associated increase in the stresses and strains to which an individual may be subjected.

The symptoms of allergy may be hay fever, asthma, edema, hives, eczema, migraine or intestinal upset. Dr. Vaughan estimates that the United States has six million people with hay fever, six hundred thousand to three million five hundred thousand with asthma, three million with recurrent sick headaches, four million with frequent hives . . . that altogether some sixty million of the United States population have had, or will have some major or minor allergic symptom at some time in their lives.

From pollens to dog's hair to cockroach powder to cosmetics, the list of things to which people are allergic is endless. One morning a little girl's mother cooked a new kind of cereal. The child lifted a spoonful, put it in her mouth. Her lips and tongue swelled like balloons. She fell into a spasm of coughing, began to suffocate, collapsed. When the doctor arrived on the run, he saw at once what happened, and injected adrenalin. In a few hours, restored to normal, the little girl was scampering around as though nothing had happened. There was nothing wrong with the cereal except that it contained an ingredient to which the child was violently allergic, namely, flaxseed.

Three out of every four children with two allergic parents develop some form of hypersensitivity usually before the age of ten. When only one parent is afflicted, half the offspring have some form of allergy, but in such cases the disease tends to strike later in life.

The idea that a person could be allergic to other human beings, or, by implication, to himself, has been debunked. The story is told of a child who had asthma only when her father was near. It turned out that the man kept chickens; the child was allergic to chicken feathers.

One reason why the lot of a hay fever sufferer is an unhappy one is the extent of ragweed pollen production. The total pollen output by weight annually of all United States ragweed plants is estimated at two billion pounds. As a result six million Americans suffer from hay fever alone.

Hay Fever

Hay fever is due to the person's sensitiveness to air-borne pollens of certain plants. It is relatively frequent in occurrence and is of clearly defined seasonal incidence.

The three most important groups of hay fever producing plants in America are the trees, grasses, and weeds; and since the pollination periods of these plants occur at certain regular intervals of the year, these groups define the hay fever season.

With few exceptions, trees pollinate for short periods in the early spring, from about March 15th to May 15th; grasses, in the late spring and early summer, from May 1st to July 1st and later; and the weeds, in the late summer and early fall, from about August 1st to October 1st. Frost destroys the ability of pollens to cause hay fever symptoms.

Of the three groups, the weeds, particularly the ragweeds, cause more hay fever than do the other two combined and are widely distributed throughout the United States and Canada.

O. C. Durham, chief botanist of the Abbott Laboratories of Chicago, and an authority on the distribution of pollens, states that the following localities are relatively free of ragweed pollen:

1. The beach with a prevailing inshore breeze.
2. Rainfall settles the pollens and dust in a locality.
3. The extreme Pacific Northwest.
4. The White Mountains of New Hampshire.
5. California and the Southwest.
6. Miami, Fla.; Mexico City; Lake Placid, N. Y.

Hay fever patients complain of one or more of the following symptoms: itching and watering eyes; itching and congested nose; sneezing; watery nasal discharge; itching of the roof of the mouth and pharynx; general depression; headache; shortness of breath; and asthma.

An intimate and detailed account of the child's environment, occupation, and habits may reveal other factors operating besides the specific pollens. One should be on guard for other sensitivities, such as foods, animal emanations, molds etc. Contributing factors to be considered are focal infections, vitamin deficiencies, and endocrine disturbances.

The following list includes some common food and inhalant offenders:

Foods

Cereals: 1, wheat; 2, rye; 3, rice; 4, corn; 5, barley; 6, oats.

Protein: 1, milk; 2, cheese; 3, eggs; 4, beef; 5, pork; 6, fish and shell food.

Vegetables: 1, tomatoes; 2, bean family; 3, spinach; 4, peas; 5, cabbage; 6, white potatoes.

Fruits: 1, peaches; 2, strawberries; 3, citrus fruits.

Epidermals

1, Feathers; 2, hair and dandruff (animal); 3, sheep wool; 4, furs.

Miscellaneous

1, Fungi, molds; 2, face powders (orris root); 3, foods with high sugar content (soft drinks).

It has been repeatedly observed that many allergics are of superior mentality. The intellectual type is most subject to hay fever, confirming the quaint thesis that the ragweed sufferer has something else in his head besides a "cold." In fact, it is observed that strong emotional strain may bring on symptoms. Reaction to movie love dramas and ghost pictures are the newest physiological wrinkle.

The diagnosis of hay fever on the basis of symptoms can, with rare exceptions, be confirmed by positive skin tests to the pollens responsible.

The treatment of hay fever includes attention to the general factors which may bring on attacks, and specific treatment, such as gradually increasing doses of the offending pollen, either by the established hypodermic injection route, or by the new and quite effective oral ingestion of pollens.

The general factors that may bring on hay fever are dusty roads, house cleaning, and chilling from going in swimming.

The individual is cautioned against bathing in pools or rivers during the height of the season. He is told to take baths in a warm room in the morning rather than the evening. Use warm water—not hot—and be sure to dry off completely before leaving the bathroom.

In addition to the risk of chilling bringing on an attack of hay fever, there is always the danger of an infection, from a public pool, with its head colds and sinus trouble. These added to a hay fever, lay the ground work for a permanent disability.

It is to be remembered that getting heated and cooling off rapidly will bring on symptoms. As unnecessary as it seems, hay fever victims must be continually cautioned against outdoor sports during the season.

For the person who is sensitive to certain foods, special elimination diets have to be planned. For the rest, plain, simple foods, not too much, should be taken. Always make the noon meal the heavy one of the day and the evening meal a light one.

The patient should keep the windows of his sleeping quarters closed all the time so that the pollen in the room will settle to the floor, then be careful not to stir it up when he goes into the room. With the windows closed he also avoids the cooling of the room which in itself can bring on an attack. Then, too, the air at sunrise is the richest in pollen.

He is not to sleep in drafts or on sleeping porches. If the windows must be kept open, there should be no cross ventilation. A wet sheet hung one foot inside the open window will stop some of the pollen, sometimes enough if his tolerance has been raised to nearly an adequate level. If the windows are closed, the air may be kept in circulation by means of an electric fan. This will add to the individual's comfort, especially during the heat of the summer. The fan, however, should not be directed toward the body of the patient or the floor or any object likely to give off dust.

Specific Treatment

The established specific treatment consists of hypodermic injections of gradually increasing doses of the pollen extract. Three plans of administration are in use: preseasonal, coseasonal, and perennial or throughout the year. The method of choice may depend on the time the patient consults the physician. The value of the injection method is well established; however, the new oral treatment is quite effective also, and shall be presented.

The patient may be rendered comfortable during the day by the use of an effective local remedy known as estivin. One or two drops in each eye, three times daily, should afford definite relief.

The most successful alternative treatment to the hypodermic injection method has been the administration of pollens orally for the treatment of hay fever. Many physicians have reported encouraging results from the administration of pollen extracts or whole pollens by mouth. This method eliminates to a large extent the disadvantages of the injection method. Oral pollens can be given to individuals of all ages from children to the aged, and to those who travel and those who are needle-shy, reducing the possibility of reactions or shock from injections. The margin of safety from oral pollens given in increasing drop doses each day is greater than when given hypodermically.

Capsules, administered orally, or preferably solutions, provide a simple scientific treatment of proved merit for hay fever patients. Facts accumulated by long experience and study of hay fever therapy have brought about a gradual shifting from reliance on the hypodermic treatment to treatment by the oral administration alone or in conjunction with the hypodermic injection of offending substances. The oral treatment is inexpensive and should be welcomed by many.

The clinical report of Dr. Eugene Gatterdam, of Phoenix, Arizona, is as follows: He treated eighty-five hay fever patients orally with pollen extracts and obtained seventy-five to eighty percent relief with ragweed, the known common offender; thirteen out of thirteen patients obtained ninety percent relief.

Oral pollens require about a month or six weeks to desensitize the individual, which also applies to the injection method. In treating hay fever, it is important that a definite schedule be worked out, and drop doses or capsules be given regularly, so as to give the maximum dose at the proper time. Pollen tolerance is only temporary and can be easily lost after being attained. Much depends on the person's sensitivity and the season. No two individuals react alike. When a satisfactory effect is obtained, maintenance of that state of tolerance should be held indefinitely, or until the patient's season is past.

Certainly, at present it offers a method of treatment for those patients who refuse to take hypodermic injections, or who have not the time to visit the doctor's office for such treatment, and those who, due to traveling, are unable to obtain the injections.

Asthma

While asthma in childhood may arise from a number of causes, its etiology points in most cases to allergic conditions of the patient who is hypersensitive to certain substances of vegetable or animal origin.

It is theoretical whether or not asthma induced by colds, bronchitis or focal infections not directly traceable to the respiratory tract, can be classified as a symptom of allergy to bacterial proteins or as a reaction to poisoning with toxins.

Nervousness and anxiety may precede or be consequences of the asthmatic state, and the neurotic factor may also complicate preexisting asthma, thus establishing a vicious circle. There is no doubt that psychic influences play a rôle in all allergic manifestations, although the exact mechanism is still problematical. Mental stress can be an important factor in causing symptoms. Psychic trauma or upset may be the trigger to fire the already loaded allergic gun and cause asthma.

That many asthmatic children have certain personality traits has been affirmed with certainty by an increasing number of scientific investigators. Those who are of superior general intellectual ability and excitable disposition, in the strict sense of the word, are particularly prone. Many cases appear in those strongly artistic and oversensitive.

What is the present day treatment of asthma? For many years this disease has been treated with various drugs and in some instances surgery has been resorted to. Now every effort is made to find the sensitizing agent or agents. To this should be added a further study of the personality of the child if real benefit is to be derived.

Preventive Allergy

Children present a more encouraging situation than adults. A new idea has appeared in connection with the study of allergic diseases. It is known as preventive allergy. Infants and children inherit the ability to react to some substance in their diet or in the environment if their parents have had allergic disorders. Certain things are more likely to cause trouble than others. If the baby or child remains away from these irritants there is a good chance that allergic reactions will not develop.

Why feed the child a wheat cereal when wheat is known to cause so much asthma in early life? It is best to start out with rye, rice and barley cereals. Eggs can cause hives or asthma in various forms. The foods rich in food value are often the worst offenders. Too much milk, especially raw milk, is bad for the young child so predisposed. Certain vegetables may also cause trouble. Beans, peas, white potatoes, tomatoes, celery, lettuce, cabbage and carrots have been common offenders in the early years of life. Sometimes oranges, grapefruit, peaches, pears, and strawberries upset the child, inducing asthmatic symptoms. Flavoring milk with chocolate or cocoa is a poor practice for such children. The necessity to eat less and yet maintain nutrition is the problem. The study of diet, therefore, plays a most helpful part in the care of the asthmatic child.

Air-borne irritants are also to be considered. No child who is allergic or who has asthma should venture near farm animals. The child can easily become sensitive to horse dander. The same holds true for goat, cow, sheep and dogs.

Household pets should never be permitted if there is any indication that the child will become sensitive to them. Many children have developed severe asthma because of their close association with dogs whom they rightfully consider their pals.

What nervous or psychic factors are involved in the treatment of asthma? Parents are advised on the necessity of allowing the child freedom to enjoy the normal privileges of childhood, paying special attention to any adverse attitude such as coddling, fussing, overanxiety, or expecting unduly high standards in school or behavior. The aim should be to promote serenity and contentment. To control asthma or any manifestation of allergy the mind must be diverted. Recognition of this precept is a most important adjunct in the supervision of the asthmatic child.

The physician should patiently interview the child and with sympathy and understanding gain its confidence. He should explain to the parents the harmful

effects of fear, worry, overexcitement, etc.; on the body in general and on the breathing apparatus in particular, and upon the ease with which these could be overcome. The child should be given full opportunity to talk of his fears and anxieties, and as treatment progressed should be encouraged to report personally upon his success in overcoming home difficulties, at school, or with his playmates.

A satisfactory response to mental hygiene treatment appears to depend primarily upon the recognition and adjustment of adverse tendencies in the child's mental attitudes towards his disorder and his environment, and the parents attitude towards the child's ill-health.

Psychological disturbances, therefore, are important in inducing asthmatic attacks, and mental guidance merits greater attention than it has received in the past. This is especially true in childhood when habits of mind are less firmly established. Alter traits in the child's personality and outlook and you may arrest the asthma.

PANCREOTOXIN TREATMENT IN DIABETES MELLITUS

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The chief task of treatment in diabetes mellitus is to recuperate the normal activity of the Langerhans cells of the pancreatic insular tissue—an organ most vitally concerned in the pathogenesis of diabetes mellitus.

Granting the great clinical importance of insulin, introduced by Banting and Best, in the treatment of diabetes, and its notable effect on carbohydrate metabolism, insulin presents a number of drawbacks, the principal ones being its short duration of action and its consequent failure to influence materially the causative factors of the disease. Among other drawbacks are hypoglycemia and hypoglycemic shock, leading, in prolonged therapy, to exhaustion of liver and muscle glycogen, and in turn to serious complications such as cardiac failure, anatomical and electrocardiographic changes in the myocardium, damage to the walls of blood vessels, cerebral disturbances, and even anatomical damage to the central nervous system—all as a result of impaired endocrine equilibrium due to prolonged insulin therapy.

Moreover, it may be contended that habitual use of insulin leads to insulin tolerance, when a given dose of insulin becomes equivalent to a decreasing amount of glucose, and to lowered carbohydrate tolerance.

Since insulin therapy is only temporary and of substitutive character, and produces hypoglycemia and the aforementioned organic disturbances, at the same time depressing the internal secretory activity of the pancreas, weakening it instead of improving it, the use of insulin demands more care than is usual today. It should be employed chiefly in severe diabetes and in diabetic coma.

Therefore, efforts to find a new method of treating diabetes mellitus, one which would, by stimulating the pancreas, help increase its secretory activity, are fully justified.

At the Thirteenth All-Union Congress of Therapeutists of the U. S. S. R., held in Leningrad, in May, 1935, we made a report concerning new methods of treatment in diabetes, based on the idea of cytotoxin therapy: i.e., the use of substances chemically specific for homologous organs, obtained by immunization of animals with such organs. Pancreotoxin, present in the serum of an animal immunized against the human pancreas, represents a special pancreatic cytotoxin. Since cytotoxins are species-specific, the antigen employed was pancreas of persons dying suddenly. The presence and titer of cytotoxin were ascertained by complement fixation.

Observations were then made of the clinical application of pancreotoxin in the treatment of diabetes in the Clinic of Experimental Therapy, in Moscow.

It was observed that a single 0.1 unit injection of pancreotoxin would, in normal persons, produce a lowering of the blood sugar curve of thirty to thirty-five mg. percentage (average). In animals, it was found that the blood sugar was lowered sixteen to thirty-six mg. percent, using rabbit anti-dog pancreas serum in dogs.

Clinically, pancreotoxin administered to diabetic patients produced a rapid decline in hyperglycemia and glycosuria, and alleviated all the cardinal symptoms of diabetes mellitus.

Prior to treatment, the patients were placed under observation and were given a special diet. Pancreotoxin was injected subcutaneously in doses of 0.1 to 0.2 unit daily. The whole course of treatment comprised fifteen to forty doses. The injections were painless, and no local or general reaction was observed. Insulin was completely excluded during and after the study.

The total number of patients was fifty, including chronic severe diabetes (of over twelve years' duration in some cases) with marked hyperglycemia, glycosuria and acetonuria. Some of the patients had used twenty to forty units of insulin daily for years.

The age of the patients varied from twenty-five to sixty years, the duration of the diabetes from one to twelve years. Physical therapy, drugs, organotherapy, etc., were not employed during the study. The diet was the patient's accustomed diabetic diet.

After the first three to five injections of pancreotoxin, the majority of patients noted an improvement in general health, an increased capacity for work, and diminished thirst and polyuria. The blood sugar curve showed a progressive lowering.

After fifteen to forty injections, in a number of cases, the blood sugar declined from 325 to 135; from 280 to 130; and from 250 to 80 mg. percent. Glycosuria also declined, from three to five percent to "trace" or zero. Improved carbohydrate tolerance was observed.

It was important to determine the duration of the effect of pancreotoxin, and to ascertain the effect of secondary courses after a given interval; and, lastly, it was important to test the preparation in juvenile diabetes.

Our clinical observations showed an obvious stability of the effects of treatment. Some patients, after twenty-five to thirty-five subcutaneous injections, showed an

effect lasting one to one and one-half years, with a less strict diet and without recourse to insulin. Two cases, patients M and P, are examples of this, and will be described.

Case Reports

CASE I.—Patient M, a housewife, aged forty-three, entered the clinic on Dec. 23, 1934, complaining of thirst, dryness in the mouth, discomfort in the right subcostal region, general asthenia and nervousness. Her father had died at fifty of heart disease, her mother at forty of dysentery; there were no siblings. Past history included measles, scarlet fever, diphtheria and typhoid. The patient had been married for twenty years and had a daughter of eighteen.

The diabetic history was of eight years' duration. In 1927 the patient observed increased thirst, polyuria and general weakness. Urine analysis showed four percent sugar. Simultaneously with the appearance of glycosuria there was an eczematous eruption about the hips and genitalia. She began to follow a diet, and at times succeeded in reducing the glycosuria, but her general health remained always poor.

Examination showed a patient of medium height, well built, weighing 64.1 kg., with well-developed panniculus. The bones, muscles and joints were normal. The thyroid was not enlarged. Percussion and auscultation showed the chest clear. The heart borders were: left, one cm. beyond midclavicular line; right, right edge of sternum. Pulse of satisfactory fullness, rhythmic, rate 70. Blood pressure 135/40.

Additional complaints were occasional pain in the region of the heart, dryness in the mouth, nervousness, irritability, restless sleep, pains in the fingers. Bowels moved daily. There were no intestinal worms.

The liver was palpable beyond the costal margin. The spleen was normal. Sight and hearing were normal. Nerve functions were normal except for increased skin sensibility on the hands and left foot; reflexes were active, coordination good.

Urine: acid reaction, specific gravity 1040, traces of albumin, sugar 4.3 percent, no acetone, up to twenty white blood cells per field. Blood sugar was 194 mg. percent.

Previous to entering the clinic, and during her stay, the patient kept to her diet, which was of the usual diabetic order. Pancreotoxin was administered in daily subcutaneous injections of 0.2 unit. Treatment consisted of twenty-five doses.

During the treatment we observed a startling improvement in her general condition, increase in her working capacity, improvement in mood, and clearing of thirst and dryness in the mouth. The joint pains which had previously disturbed her disappeared. Blood and urinary sugar both showed a gradual decrease almost to normal:

	BLOOD SUGAR *mg. percent*	GLYCOSURIA *percent*	SPECIFIC GRAVITY
Initial	250	4.3	1030
After ten injections	159	2.8	
After twenty-six injections	134	0.5	1022

Before treatment the daily urinary sugar output was 31 gm.; after treatment (and on a similar diet), 4.5 gm.

In all, thirty-five injections were given, and then the patient was kept under observation for blood and urine sugar. Though no pancreotoxin was given after Feb. 5, 1935, repeated urine analysis showed no sugar or amounts up to 0.5 to 1 percent; the blood sugar varied from 138 to 148 mg. percent.

One year and one and one-half years after the first course of treatment, with complete exclusion of insulin, the blood sugar and glycosuria remained at the levels established during treatment. The patient felt well, gained five kg. in weight, and did not experience thirst or polyuria in spite of the fact that she kept to no diet and often resorted to cakes and various sweets.

CASE II.—Patient P, aged fifty-eight, entered the clinic on March 1, 1935, complaining of weakness, hunger and extreme thirst (up to fifteen glasses of water a day). She had been diabetic for six years, and in the past year her urinary sugar varied from two to five percent. There was no familial history of diabetes, syphilis or tuberculosis. The patient was married, with one healthy daughter.

Examination showed a well-built woman of medium height, with well-developed panniculus, normal skeletal structures, and no thyroid enlargement. Chest was clear. Heart tones were clear but somewhat dull. Heart borders were: left, midclavicular line; right, right border of sternum; great vessels five and one-half cm. in width. Pulse was regular, rhythmic, rate 68; arteries slightly firm. Blood pressure 130/45. Abdominal organs within normal limits.

Additional symptoms: dryness in mouth, excessive urination, nervousness, irritability, restless sleep. Bowels moved daily; there were no worms; sight and hearing were normal.

Urine analysis before treatment showed two percent sugar and positive acetone reaction. Blood sugar was 250 mg. percent. Specific gravity 1038.

Two injections of pancreotoxin (0.2 unit daily) improved her general condition and relieved the thirst and polyuria (to six glasses of water daily); blood sugar was 204 mg. percent, urine sugar 1.3 percent.

After fifteen injections her general condition was very good, without thirst or polyuria, without glycosuria. Blood sugar was 80 mg. percent.

After completion of the pancreotoxin treatment the patient remained for fifteen months under observation in the dispensary polyclinic. During this period, she felt very well; she was not troubled by thirst or polyuria; she gained weight, ate a more liberal diet, and had no recourse to insulin. Periodic analyses of the blood and urine showed complete absence of glycosuria and acetonuria and a blood sugar of 120 to 10 mg. percent.

In order to elucidate the effect of a repeated pancreotoxin treatment, we examined persons who had been treated previously, and found that a definite effect was produced. The following case is of interest in this connection.

CASE III.—Patient N, fifty-eight years of age, entered the clinic on March 11, 1935, complaining of giddiness, headaches, weakness and thirst. Appetite was increased. The bowels moved daily. Urination was normal, one and one-half liter daily; there were no pains in the region of the kidneys. Libido was weakened. The patient's father died of cardiac disease, but was known (by a chance analysis) to have glycosuria. His mother died of cancer of the stomach, his brother of a brain tumor. Three sisters were healthy. The patient did not remember his childhood diseases, but had

had typhus, pneumonia, gonorrhea (1910) and an operation for hemorrhoids.

He thought the duration of his diabetes was more than ten years. Urine analysis four years previously showed four percent sugar. He developed dryness in the mouth, thirst, headache and weakness.

He attended the Semashko Polyclinic and adhered to a diet for one year, reducing the urinary sugar to five percent. In 1932 he received fifteen injections of pancreotoxin in this clinic, and the glycosuria disappeared. One year later the glycosuria reappeared, when he was given eight injections of pancreotoxin and it cleared up again.

Examination showed a man of medium height, weight 76.7 kg., with somewhat dry skin, weak muscular development, no thyroid or lymphatic enlargement, clear chest. Heart borders: left, one cm. beyond papillary line; right, one cm. beyond right side of sternum; great vessels, six cm. wide; pulse regular, full, rate 74. Blood pressure 125/70. Peripheral vessels were hard to palpation. Gastrointestinal findings were: tongue clean, abdomen soft and not tender; liver and spleen painless and not enlarged. Cerebrospinal findings: skull and cranial nerves normal; motor, sensory and reflex responses normal, coordination good.

Urine showed acid reaction, specific gravity 1027, traces of albumin, sugar 1.2 percent, no acetone. The blood sugar was 232 mg. percent.

The previous pancreotoxin courses were given in 1932 and 1933 and were not accompanied by any side-actions. After fifteen injections his general health improved, his headache completely disappeared, and his thirst was relieved. He gained 1.8 kg. in weight. Blood and urinary sugar gradually decreased, the glycosuria declining from 2.2 percent before treatment to 0.3 percent after the first course. The blood sugar had fallen from 232 mg. percent to 195 mg. percent.

From March 1935 to June 1936, he was under constant observation, and his general health and working capacity were considered quite satisfactory. He had no dryness in the mouth, no thirst, and normal urination. Even though he had not followed a strict diet, glycosuria sometimes completely disappeared and it never exceeded 0.6 percent; the blood sugar had varied from 106 to 141 mg. percent.

Observations on pancreotoxin in juvenile diabetes do not warrant a definite conclusion as yet, owing to the small number of cases, but still they show the effectiveness of pancreotoxin in the juvenile forms, as the following case will show.

Case IV.—Patient PP, a stage manager, aged twenty-five, had suffered from diabetes mellitus since 1933. He complained of thirst, dryness in the mouth, and excessive urination. There was no familial diabetes. He had had only the usual infantile diseases. Examination disclosed a poorly fed, weakly developed patient with a fibrous process in the right apex. Digestive, genito-urinary and vascular systems were normal; there was increased nervous excitability; organs of special sense were normal.

Urinalysis showed six to nine percent sugar, with traces of acetone; blood sugar was 224 to 400 mg. percent. The patient had received forty to sixty units of insulin daily since the onset; on admission he was given a diet containing proteins 100; carbohydrates 110, fats 80.

Prior to pancreotoxin treatment, with forty units of insulin daily, the urine sugar was 4.1 percent with negative acetone, while the blood sugar was 179 mg. percent. Twenty injections of pancreotoxin were given, the daily dose being 0.05 unit, and the insulin dosage was reduced to twenty units (instead of forty to sixty).

During the treatment we observed a considerable improvement in the patient's general condition and an increase in weight, with a decline in blood sugar and glycosuria. After these twenty injections he felt exceedingly well, and the urine was clear. The blood sugar had fallen to 146 mg. percent.

(In general, in pancreotoxin therapy, no drugs were used and insulin was excluded. The present case, because of its severity, was an exception; but it showed definitely a clinical effect of pancreotoxin with half-dosage of insulin.)

Conclusions

On the basis of clinical observations we may conclude that the use of pancreotoxin in the treatment of diabetes mellitus has, in a number of cases, produced a clear-cut therapeutic effect. This effect included:

1. Improvement in the general condition, increased muscular tonus, better working capacity, and relief of diabetic symptoms (polydipsia and polyuria) which have even, in some cases, disappeared entirely.
2. Reduction and in some cases disappearance of glycosuria, and improvement in hyperglycemia.
3. Improved carbohydrate tolerance.

Pancreotoxin was found to be free of side-actions and the undesirable effects of insulin. In diabetes mellitus, it evidently acts not merely upon the symptoms of the disease but at the root of the disorder, by stimulating and increasing the secretory activity of the pancreas.

What new factors are brought out by this form of treatment?

We suggest: 1. Although it is not of primary importance, a special pancreatic cytotoxin has been obtained. 2. A new and effective preparation for the control of diabetes mellitus, with more stable and protracted results than those of insulin, is available. 3. We have transferred the cytotoxin theory from laboratory to clinic, and have shown for the first time the possibility of cytotoxin therapy proven by systematic clinical study.

Diabetes of the Menopause

E. Cantilo (*Endocrinology,* January, 1941) reports successful responses in diabetes mellitus of the menopause produced by the antagonistic action of sex hormones on activity of the pituitary. Forty women in the menopause or postmenopause period, presenting diabetes mellitus and evidence of hyperactivity of the pituitary, were treated with estrin and progesterone. With insulin treatment and diet regulation alone, the disturbed carbohydrate metabolism remained almost unchanged. The addition of estrin and progesterone produced a successful response in one hundred percent of the patients reported. The dosage of estrone was five to ten mg. two to three times weekly; total dose, one hundred to thirteen hundred mg. The dose of progesterone was usually two to five mg. two to three times per week. In some instances it was ten mg. and in one case on hundred mg. twice a week. The total amount averaged about three hundred mg.

New Treatment for Schizophrenia Saves Sugar and Insulin

In making economies on sugar and insulin for the treatment of schizophrenia, British medical men have found that the new methods, now tried out over a whole year, give better results. No sugar is now used, and the consumption of insulin has been reduced by over a quarter.

Normally, schizophrenia is treated by injecting insulin into the muscles, and when the patient falls into a coma he is fed with sucrose; on waking he is given sweetened drinks. In this way each patient requires one pound of sugar a day, whereas the ration allowance is only one-half pound a week.

Although a certain amount of extra sugar was eventually allowed, the doctors determined to find a more economical method of treatment. After unsuccessful attempts on smaller quantities of sugar, it was found better to replace the sugar entirely by potatoes mashed into a thin soup with milk and water, a pint of this being fed after the patient had been brought out of the coma with an injection of twenty cc. of glucose (thirty-three percent).

Patients now recover rapidly from the coma, and within one to three minutes they are able to answer questions and drink the soup which they much prefer to the sugar drink. What is more, there has since been not one instance of the vomiting which was quite common with sugar.

Then the doctors turned their attention to economy of insulin. Instead of administering it by the intramuscular method, they tried injecting it into the veins and found that by doing so not only could they reduce the amount given from 117 to 84 units (averaged over twenty-four patients), but the coma produced was much quieter and there were no relapses after treatment.

In this way the doctors saved eighty-four pounds of sugar a week, or about sixteen hundred weight over the year, as well as 23.8 percent of the insulin used.

Acute Bacterial Endocarditis

Captain A. Henry Clagett, Jr., Medical Reserve Corps, U. S. Army, discussing the relation of oral infections to the circulatory system (*Military Surgeon,* June, 1941) says that while much research has been done in the field of oral infections as an etiological factor in cardiovascular disease, there is a lack of any appreciable amount of definite evidence on the subject. The most important subject in this field he considers to be subacute bacterial endocarditis. In the first place, there is a definite etiological relationship between this condition and oral infection; secondly, it is a very serious condition, the mortality rate being practically one hundred percent; and thirdly, although the treatment so far has been of no avail, there is reason to believe that intelligent cooperation between the physician and the dental surgeon may be of value in its prevention.

While the author discusses the relationship of dental infection to subacute bacterial endocarditis, he does not wish to convey the false idea that dental foci of infection are the only etiological factors in this condition. It has been shown that the streptococcus viridans is one of the most common organisms in dental infections, especially apical abscesses. Furthermore, the extraction of a tooth is often followed by a transient bacteremia, which a normal individual can usually handle. On the other hand, the individual with a crippled heart valve is in grave danger of this transient bacteremia causing an endocarditis, especially if the organism is the streptococcus viridans. It therefore becomes evident that dental extraction in the patient with valvular heart disease is a serious matter. On the other hand, if the focus is not eliminated, the bacteria will reach the blood stream sooner or later. It therefore seems that one is in danger no matter which course is followed.

The therapeutic agents recommended have been many and varied. Arsphenamine was recommended several decades ago and has recently been resurrected. The latest treatment is a combination of sulfapyridine and heparin, the combination being the most rational of any so far used. The first reports of this combination were encouraging, but many unforeseen complications were encountered. Foremost, was the establishment of an extremely prolonged bleeding time with tendency to hemorrhage. In several cases, this hemorrhage was cerebral in location and was the immediate cause of death. Therefore it is still true that once the disease is contracted, it is for all practical purposes, one hundred percent fatal.

The author concludes by saying in the close cooperation of the dentist and the physician lies the hope of better results from prophylactic dentistry in patients with cardiovascular disease.

Menopausal Flushing

The dermovascular effects of estrogen in women with menopausal flushes, is the subject of an article by S. R. M. Reynolds, S. Kaminester, F. I. Fostèr and S. Schloss (*Surg., Gynec. & Obst.* 73:206 (Aug.) 1941). The authors say that, "It has been observed recently that estrogen has a vasodilating effect upon the smallest blood vessels of the skin . . . a dermovascular action. This has been seen directly in the ear of the rabbit, and attested indirectly in this species by noting a thirteen percent reduction in transmitted light following injection of the hormone. In the human male, a similar effect has been noted; estrogen causes a four and six-tenths percent increase, on the average, in the size of the finger." When estrogen is administered to menopausal women, two types of response in the peripheral circulation, as measured with the plethysmograph on the finger, are obtained. These are referred to as the plateau type and the flush type. In untreated menopausal patients, the flush type predominates. After clinical relief with the administration of estrogens, "the flush type response diminishes in frequency, and the plateau response increases somewhat. In a significant number of instances no dermovascular action of estrogen is demonstrable. The results recorded may be regarded as objective evidence of increased stability of the vasomotor nervous centers (by diminished number of the flush, or arteriolar dilatation responses), and of the capillary blood vessels (by increased frequency of injections which are not followed by definite dermovascular effects). It is concluded that clinical improvement in the vascular disturbances of the menopause brings about certain adjustments of a stabilizing nature on the peripheral vascular tree, affecting both the arterioles of the skin, and the capillary blood vessels."

News Items

Harvey Lecture.—The seventh Harvey lecture will be given at the New York Academy of Medicine, Thursday, April 16th, by Dr. Philip D. McMaster, whose subject will be "Lymphatic Participation in Cutaneous Phenomena." This lecture takes the place of the second stated meeting of the Academy for April.

Lectures to the Laity.—The sixth lecture of the seventh series of Lectures to the Laity at the New York Academy of Medicine will be presented on Thursday evening, April 23d, by Dr. A. J. Carlson, emeritus professor of physiology, University of Chicago. His subject will be "The Newer Knowledge on Nutrition."

Friday Afternoon Lectures.—The nineteenth lecture of the sixteenth series of Friday Afternoon Lectures will be given at the New York Academy of Medicine on April 17th by Dr. Herman Wortis, assistant in neurology at the Neurological Institute. His subject will be "Neuropsychiatric Aspects of Alcoholism." The twentieth lecture of the series will be given on April 24th, by Dr. Henry H. Kessler, medical director of the Rehabilitation Clinic of New Jersey. His subject will be "Rehabilitation Surgery."

Section of Medicine.—The meeting of the Section of Medicine of the New York Academy of Medicine, to be held Tuesday evening, April 21st, will be a resident's meeting. Cases will be presented, by invitation, by physicians from the following hospitals: Mount Sinai, Roosevelt, New York, Presbyterian, Bellevue, Post-Graduate, Lenox Hill, Metropolitan and Flower-Fifth Avenue.

International Association for Dental Research.—At the recent annual meeting of this association, Dr. Charles F. Bödecker, of Columbia University, was elected president and other officers as follows: Dr. Philip Jay, University of Michigan, president-elect; Dr. H. Trendley, dean, U. S. Public Health Service, vice-president, and Dr. E. H. Hatton, Northwestern University, secretary.

New Journal of Otorhinolaryngology.—Announcement is made that the first issue of the *Quarterly Review of Otorhinolaryngology* will appear this month. The object of this journal, according to the publisher, is "to bring together in one publication, in concise form, the essence of all that is published in otology, rhinology and laryngology." The data are systematically gathered from more than three hundred medical and surgical periodicals, transactions and special publications, and properly classified and indexed for quick reference. It is published in Washington, D. C., by the Washington Institute of Medicine.

Medical Society of the State of New York.—The 136th annual meeting of the Medical Society of the State of New York will be held at the Waldorf-Astoria hotel, New York, April 27th to 30th, under the presidency of Dr. Samuel J. Kopetzky, New York. Dr. George W. Cottis, Jamestown, is president-elect. The annual banquet will be held at the Hotel Waldorf-Astoria on Tuesday evening, April 28th. As accommodations are limited, Dr. Alfred M. Hellman, chairman of the Banquet Committee, requests that arrangements for tables be made as soon as possible. Applications for tickets should be made to the Banquet Committee, 292 Madison Avenue, New York.

New York Pathological Society.—A meeting of the New York Pathological Society, in affiliation with the New York Academy of Medicine, will be held Thursday evening, April 23d. The papers of the evening will deal with the dynamic aspects of the pathological processes of chronic renal lesions. Dr. Homer Smith will read a paper on the application by the physiologist of the titration method to the study of the distribution of glomerular filtrate and tubular perfusion, and Dr. Thomas Addis will read a paper on the recognition by the clinician of the shifting anatomical alterations in the kidney by variation in the urinary sediment. Dr. Paul Klemperer will open the discussion.

American Association for the Advancement of Science.—The twenty-second annual meeting of the Southwestern Division of the American Association for the Advancement of Science will be held at the New Mexico State College of Agriculture and Mechanic Arts, Las Cruces, April 27th to 30th, under the presidency of Dr. W. M. Craig, of the Texas Technological College at Lubbock. Dr. H. P. Mera, of the Laboratory of Anthropology, Santa Fe, is vice-president of the division and Dr. Frank E. E. Germann, of the University of Colorado, is secretary. The division meets in four sections as follows: Biological sciences, mathematics, physical sciences and social sciences.

Section of Obstetrics and Gynecology.—At a meeting of the Section of Obstetrics and Gynecology of the New York Academy of Medicine, to be held Tuesday evening, April 28th, the following papers will be read: The pulse and respiratory variations during labor in women with rheumatic heart disease, by Dr. Harold E. B. Pardee and Dr. Curtis L. Mendelson; Habitual abortion, by Dr. Carl T. Javert; Transfusion reactions, by Dr. Charles E. Robinson, and Impetigo contagiosa, by Dr. Leston E. Fitch.

Child Health Day.—For many years May 1st has been dedicated to the children of the United States and called Child Health Day. This year the day has a special significance. Surgeon General Thomas Parran, United States Public Health Service, announces that President Roosevelt has called upon each community to undertake the immunization of every child over nine months of age against smallpox and diphtheria, and has asked that this health defense task be completed by the first of May. Every state and local health department, every physician, stands ready to help parents give their children protection against these two diseases. Physicians in some localities may also advise immunization against whooping cough or typhoid fever.

Professor Cowgill Awarded Nutrition Prize.—George R. Cowgill, associate professor of physiological chemistry at Yale University and editor of the Journal of Nutrition, has been awarded the $1,000 Mead Johnson and Company prize of the American Institute of Nutrition for researches dealing with the B complex vitamins. The citation accompanying the award said that it was made to the Yale teacher "for his fundamental contributions through experimental research on the B vitamins, his leadership in interpreting results of research and his influence in promoting advances in this field of knowledge." Professor Cowgill has been engaged in vitamin research for more than twenty years and his experimental work has been followed up by physicians and public health workers interested in the problem of subnutrition.

Personal—Dr. John F. Erdmann, of New York, was a guest lecturer of the sixteenth annual spring graduate course of the Gill Eye, Ear and Throat Hospital, Roanoke, Va., which was held on April 6th to 11th. Dr. Erdmann's subject was "Ludwig's Angina."

Lieut. Richard Bland Williams, Jr., of Portsmouth, Va., who is on duty at the Navy Hospital at Guam, which was taken by the Japanese, is a prisoner in Japan, according to press dispatches.

Dr. William B. Fulton, of Harrisburg, Pa., has been appointed chief of the health division in the Bureau of Mines, U. S. Department of the Interior. He will direct the bureau's expending activities in safeguarding the physical welfare of thousands of workers in the mineral industries.

Dr. Arnold Lazarow, of Chicago, has been awarded the Joseph A. Capps Prize in Medical Research for 1941 for his study on "Particulate Glycogen: A Submicroscopic Component of the Guinea Pig Liver Cell; Its Significance in Glycogen Storage and the Regulation of Blood Sugar," according to an announcement from the Institute of Medicine.

Dr. Richard P. Strong, professor emeritus of tropical medicine at Harvard Medical School, delivered the fifth series of John Wyckoff Lectures at the New York University College of Medicine, on March 24th and 25th. His general topic was "Tropical Diseases and the War." The first lecture discussed dysentery, typhus fever and plague, and the second, trypanosomiasis and onchocerciasis.

Dr. Ruth Hartley Weaver has been appointed assistant director of public health of Philadelphia, to succeed the late Dr. Martha Tracy.

Dr. Frank Konzelmann, professor of clinical pathology, Temple University, Philadelphia, has been named head of the pathological laboratories at the Memorial Hospital, Wilmington, Delaware. Dr. Konzelmann will continue his present duties at Temple.

Dr. Claude C. Pierce, U. S. Public Health Service, has been appointed national medical director of the Planned Parenthood Federation of America, Inc., formerly known as the Birth Control Federation of America, Inc.

Dr. Michael Heidelberger, associate professor of biochemistry, Columbia University College of Physicians and Surgeons, delivered the annual Edward Gamaliel Janeway Lectures at Mount Sinai Hospital, on April 7th to 10th. His subject was Newer Concepts of Infection and Immunity and Chemistry's Part in Their Development.

New York Roentgen Society.—A meeting of the New York Roentgen Society, in affiliation with the New York Academy of Medicine, will be held Monday evening, April 20th. Cases will be presented as follows: A case from the Memorial Hospital, by Dr. Ralph E. Herendeen; an undiagnosed gastric lesion, by Dr. Frank Huber; leucemia of bone simulating tuberculosis and neurotrophic hip joints in a boy fifteen years of age, by Dr. Raymond W. Lewis; xanthoma in relation to giant-cell tumor, by Dr. J. H. Levy; an unusual neoplasm of the lung, by Dr. Ernest H. Wood, Jr.; renal aneurysm, by Dr. Robert J. MacCallum; polycythemia vera treated with generalized irradiation, by Dr. Clara Okrainetz; radiosensitivity of carcinoid, by Dr. William V. Tenzel. A general discussion will follow the presentation of the cases.

National Tuberculosis Association.—The thirty-eighth annual meeting of this association will be held at the Bellevue-Stratford Hotel, Philadelphia, May 6th to 9th, under the presidency of Dr. Bruce H. Douglas, of Detroit, Mich. Dr. Charles J. Hatfield, 1790 Broadway, New York, is secretary of the association. The program includes panel discussions on the management of patients with occasional positive sputum after apparently adequate therapy, and on the treatment of postoperative complications. Among the speakers listed on the program are: Dr. Walter K. Whitehead, S. Reid Warren, Jr., Sc.D., Dr. Robert G. Bloch, Dr. Chevalier L. Jackson, Florence B. Seibert, Ph.D., William H. Feldman, M.S., Dr. Horton C. Hinshaw, Dr. Frank C. Mann. One session will be devoted to the "Historical and Social Significance of the Tuberculosis Movement" and on Friday a symposium will be given on "Tuberculosis Associations and National Defense." On Friday evening a diagnostic and therapeutic clinical conference will be held at which Dr. Henry C. Sweany, of Chicago, will be chairman. The Saturday morning program includes a paper by Dr. J. B. McDougall, of London, England, on Tuberculosis and the war in England. The paper will be read by Dr. George J. Wherrett, of Ottawa, Canada.

Meetings of Medical Societies.—Among the medical societies to meet during the month of May are:

American Association of Genitourinary Surgeons, Hershey, Pa., May 27th to 29th; Dr. Homer G. Hamer, Indianapolis, president; Dr. Charles C. Higgins, Cleveland, Ohio, secretary.

American Association of the History of Medicine, Atlantic City, N. J., May 3d to 5th; Dr. Esmond R. Long, Baltimore, Md., president; Dr. H. E. Sigerist, Baltimore, Md., secretary.

American Association on Mental Deficiency, Boston, May 13th to 16th; Dr. Fred O. Butler, Eldridge, Calif., president; Dr. Neil A. Dayton, Boston, Mass., secretary.

American Laryngological Association, Atlantic City, N. J., May 25th to 27th; Dr. T. E. Carmody, Denver, Colo., president; Dr. C. J. Imperatori, New York, secretary.

American Otological Society, Atlantic City, N. J., May 28th to 29th; Dr. E. M. Seydell, Wichita, Kan., president; Dr. Isidore Friesner, New York, secretary.

American Psychiatric Association, Boston, Mass., May 18th to 22d; Dr. James K. Hall, Richmond, Va., president; Dr. W. Overholser, Washington, D. C., secretary.

American Society for Clinical Investigation, Atlantic City, N. J., May 4th; Dr. William Dock, San Francisco, Calif., president; Dr. E. M. Landis, Charlottesville, Va., secretary.

Arizona State Medical Association, Prescott, May 25th to 30th; Dr. W. Paul Holbrook, Tucson, president; Dr. W. Warner Watkins, Phoenix, secretary.

Association of American Physicians, Atlantic City, N. J., May 5th to 6th; Dr. J. H. Means, Boston, Mass., president; Dr. H. J. Morgan, Nashville, Tenn., secretary.

California Medical Association, Del Monte, May 4th to 7th; Dr. Henry S. Rogers, Petaluma, president; Dr. George H. Kress, San Francisco, secretary.

Illinois State Medical Society, Springfield, May 19th to 21st; Dr. Charles H. Phifer, Chicago, president; Dr. Harold M. Camp, secretary.

Kansas Medical Society, Wichita, May 11th to 14th; Dr. C. D. Blake, Hays, president; Mr. C. G. Munns, Topeka, secretary.

Massachusetts Medical Society, Boston, May 26th to 27th; Dr. Frank C. Ober, Boston, president; Dr. Michael A. Holt, Boston, secretary.

Mississippi State Medical Association, Jackson, May 12th to 14th; Dr. Augustus Street, Vicksburg, president; Dr. T. M. Dye, Clarksdale, secretary.

New Hampshire Medical Society, Manchester, May 12th to 13th; Dr. Charles H. Dolloff, Concord, president; Dr. Carleton R. Metcalf, Concord, secretary.

Nebraska State Medical Association, Omaha, May 4th to 7th; Dr. William P. Wherry, Omaha, president; Dr. R. B. Adams, Lincoln, secretary.

Meeting of Cardiological Society.—At a meeting of the New York Cardiological Society, Inc., held at the New York Academy of Medicine, on Wednesday, April 8th, the scientific session consisted of two papers as follows: The stethogram in practice, by Dr. Simon Frucht and Dr. Max Pomerance, and Therapeutic studies in angina pectoris, by Dr. Joseph E. F. Riseman. The presentation of these papers was followed by a general discussion. As this was the annual meeting of the society, there was an executive session for members only, at which time reports of committees and the treasurer were presented and officers were elected.

Institute for Hospital Administrators.—The second New England Institute for Hospital Administrators will be held at the Harvard Medical School, June 15th to 25th, with Dr. Charles F. Wilinsky, director of the Beth Israel Hospital, Boston, as chairman. The institute will be conducted by the American College of Hospital Administrators and the New England Hospital Assembly, in conjunction with the hospital associations of the New England States, New York, New Jersey and Pennsylvania, Harvard Medical School, Boston University School of Medicine and Tufts College Medical School.

Joint Meeting of Physical Therapy Societies.—A joint meeting of the New York Physical Therapy Society, the Pennsylvania Academy of Physical Medicine, the Connecticut Physical Therapy Society and the New Jersey Society of Physical Therapy Physicians, was held on April 11th, in Philadelphia. These societies participated in three sessions of the Eastern Section of the American Congress of Physical Medicine. Among the speakers were the following New York physicians: Dr. Richard Kovács, Dr. Charles R. Brooke, Dr. Alexander Hersh, Dr. Frederick M. Allen, Dr. Lyman W. Crossman, and Dr. Washington Merscher.

New York Surgical Society.—A meeting of the New York Surgical Society was held at the New York Academy of Medicine, on Wednesday, April 8th, under the presidency of Dr. Frederick W. Bancroft. Dr. Philip D. Allen presented a case of hyperthyroidism in a girl ten years of age, treated with the two stage operation; also a case of carcinoma of the rectosigmoid, showing result of the first stage Lahey operation. Dr. John H. Garlock presented a case of localized Hodgkin's disease at the cardiac end of the stomach, one year postoperative after transthoracic resection with esophagogastrostomy; a case of chronic cardiospasm with mega esophagus, four months postoperative, the operation consisting of subdiaphragmatic esophagogastrostomy; a case of resection of the head of the pancreas, one stage operation for carcinoma of papilla of Vater, three months postoperative. Dr. Jefferson Browder presented a case of tumor of the tibial nerve, showing anastomosis and manner of recovery after resection. The paper of the evening, entitled "The Extralaryngeal Division of the Recurrent Laryngeal Nerve; its Significance in Vocal Cord Paralysis," was presented by Dr. Carnes Weeks and Dr. J. William Hinton. The next meeting of the society will be held on April 22d. A paper by Dr. Richmond L. Moore will be read by Dr. George H. Humphreys on "Pulmonary Abscess, a Surgical Problem." Dr. Moore has been called to active military service.

Action of Reducing Agents on the Skin

(*Continued from page 274*)

Reducing agents, when applied on broken skin with exposed cutis, have an effect not dependent upon concentration. As long as the true skin is exposed, the reducing agent causes inflammation. The exposed skin smarts, pains and burns. The next action is to promote instantaneous contraction of the separated connective tissue. The exposed cutis tends to draw together. Thus, the reducing agent tends to promote healing with the minimum formation of scar tissue. No injury of the true skin can heal without scar formation. It is the character of the connective tissue. The presence of a reducing agent can only promote in some degree union and healing of the exposed cutis.

A final, and purely incidental effect of reducing agents upon the skin is their action on skin parasites. As an example, take the itch mite. The female of this species burrows into the skin and lays its eggs in the epidermis. The young hatch and carry on the chain of biological events.

The reducing agents first act to mechanically remove the parasites, their irritating excreta, ova and eggs and the young which have not been hatched. This takes place through removal of the horny layer as described. It is purely mechanical so far as the parasites are concerned.

The second action is a chemical one. The parasites require oxygen for their existence. The reducing agent removes the oxygen and hence takes away the means of life for the parasite.

As a practical matter, the prescribing physician must know what is a strong concentration and what a weak one of a reducing agent. The division must in a sense be purely arbitrary and based upon experience. In the case of salicylic acid, six percent is usually considered the mark of division. Thus a preparation containing less than six percent would be considered a weak agent and would act as a keratoplastic or builder of the horny layers. One containing more than six percent would be a strong agent and would act as a keratolytic or remover of the horny layer. In practice this six percent should be observed only as a limit with experience or clinical tests determining the optimum percentage or concentration for any particular purpose.

New Unit at Neuropsychiatric Institute

An eight story science building is under construction at the Neuropsychiatric Institute of the Hartford Retreat, according to the *Journal of Nervous and Mental Disease*. Originally designed for scientific research exclusively, the building has been planned for emergency hospital expansion with between two and three hundred emergency beds with complete hospital facilities to supplement the emergency service of the nearby Hartford Hospital. The unit will contain technical laboratories for medical research in electroencephalography, cardiography, surgery, gynecology, eye, ear, nose and throat, neurology, endocrinology and orthopedics. The double second story will house the Jelliffe Library and the medical collection of the institute. Dr. Margaret A. Daley, Hartford, was recently added to the staff of the institute as a fellow in psychiatry.

Book Reviews

A Healthy City

The Value of Health to a City. Two Lectures Delivered in 1873 by MAX VON PETTENKOFER. Translated from the German, with an introduction by HENRY E. SIGERIST. Baltimore: The Johns Hopkins Press, 1941. Pp. 52. Price $1.00.

Apparently there is nothing new under the sun. Seventy years or more ago a real scientist, pharmacist, physician, physiologist, chemist assayed the task of making Munich a city of healthy people. To convince the citizens to support his plan, von Pettenkofer gave them pep talks. He believed that money talks. His two lectures were financial treatises. So much money—so much health. And it worked. It worked for Munich. It has worked for other cities all over the world. Now we are in a state of global war. Particular circumstances, as Dr. Sigerist says in his foreword—a wonder job all its own—permitted the United States to thrive on an economy of waste for many years, but conditions are changing rapidly and in the years to come we may be forced to economize. How prophetic!

The Johns Hopkins Press must be thanked for bringing to the English speaking audience these delightful and profitable lectures by von Pettenkofer. Dr. Sigerist needs no thanks from anyone for these translations—he has already gained the acclaim of all persons historically minded.

Practice of Medicine

A Textbook of the Practice of Medicine. By various authors. Edited by FREDERICK W. PRICE, M.D., C.M., F.R.C.P., F.R.S. (Edinburgh). Sixth edition. Completely revised; some parts rewritten and much new matter added. Ninety-nine illustrations. London and Montreal: Oxford University Press; London: Humphrey Milford, 1941. Pp. 1891. Price, thirty-eight shillings.

The sixth edition of this large and exhaustive work is published within four years of the previous edition, but so rapid and great has been the progress made in several branches of medicine, that its revision and publication are opportune, and, therefore, a summary of the book and these forward steps is called for. It is impossible to review a work of this size and importance and do justice to its merits in the space at our disposal; indeed, an expert on the different subjects dealt with would be required to do this competently, and it must suffice to draw attention to a few of its more salient features.

If a choice had to be made among the sections in which the standard is uniformly high, it would probably fall upon Dr. Price's section on the circulatory system, which is full and comprehensive and at the same time condensed. Also on that devoted to diseases of the nervous system, which deserves high praise; it is both up-to-date and discusses the ins and outs of this intricate subject and its treatment with commendable discretion. However, all the contributions are good.

New articles have been contributed on thirty-eight diseases, conditions, complaints and injuries, including the common cold, injuries from radioactive substances, poisoning by coal tar derivations, functional bundle-branch block, and the heart in hyperthyroidism. There is a considerable amount of new matter; the use of the sulfonamide group of drugs in the treatment of acute infections, the diagnosis and prophylaxis of louse-borne typhus, the mental health of soldiers and others, while some modern methods for preventing and dealing with obscure diseases and conditions are described. What medicine can do to combat disease and minor affections is set down clearly and reasonably, together with the whys and wherefores of preventive or curative measures suggested.

An advantage of this work is that the contributors number only thirty-one and it is evident that the editor has done his editing so meticulously that the volume reads like a one man's book. The publishers are to be commended for the way in which the book has been arranged, and although it is large, it is not bulky. It is an extremely valuable work of reference for the general practitioner.

Proctology

Proctology for the General Practitioner. By FREDERICK C. SMITH, M.D., M.Sc., (Med.); F.A.P.S., Formerly Associate in Proctology, Graduate School of Medicine. University of Pennsylvania. Illustrated with 161 halftones and line engravings and five color plates. Second revised edition. Philadelphia: F. A. Davis Company, 1941. Pp. 466.

The second edition of this practical work offers much of interest to the general practitioner, and some that is much too involved for him. The text is excellent; the illustrations servicable. There remains, however, emphasis on certain features of proctology that the man in general practice can view only as superspecialism. The sections on operative procedures are short, pertinent, but beyond the scope of any general practitioner. On the other hand, the chapters on hemorrhoids are concise and helpful. Informal introduction to examination, diagnosis, and treatment fulfill the promise of the title. The description of venereal diseases of the anus and rectum is modern up to about 1938. The most recent addition to the family of sulfonamides is not mentioned. Yet sulfathiazole has revolutionized the therapy of gonorrhea, granuloma inguinale, and lymphogranuloma venereum. In the main, the physician seeking a clear text on the lower bowel and regions about it will find this book of great value, easy to consult, easier to read than most, and the author should be content. He has helped the general practitioner.

First Aid

First Aid Primer. Also including civilian defense health aids; emergency feeding; blackout instructions; morale through nutrition. By HERMANN LESLIE WENGER, M.D., New York Post-Graduate Hospital and ELEANOR SENSE, B.Sc., M.Sc. Illustrated by AARON BERKMAN. New York: M. Barrows and Company, Incorporated. Pp. 104. Price, $1.00.

Every civilian should learn how to give prompt and efficient first aid and this timely book is a simple guide to emergency first aid measures. The information is presented simply and is fully illustrated, making it easy to understand. Besides the obvious first aid measures, such as handling of supplies, dressings, bandages and antiseptics, there are clear, simple instructions on the control of bleeding, the treatment of infections, methods of bandaging, use of splints and handling of broken bones. Of special importance in wartime first aid is the section on the recognition and treatment of poison gas, handling of incendiary bombs, and transportation of the injured. The second part of the book deals with the family's health under wartime conditions. Air raid wardens, school teachers, first aid students, and nurses will find the book useful.

Critique

Are We Well Fed? Work efficiency is closely correlated with nutrition. Faulty diet and ill-health caused thereby do far more to slow down defense production than labor difficulties. A diet completely adequate for the maintenance of health, i.e., such a state of health that no improvement could be effected by a change in diet, has usually been maintained in the United States only by those on far above average incomes. This was proved in a booklet issued in 1941 by the Bureau of Home Economics in the Department of Agriculture under the title: *Are We Well Fed?*

Herein we find adequate diets set down in quantitative terms with liberal allowances of protein, vitamins and minerals. A diet is rated "good" when it exceeds minimum needs by from fifty to one hundred percent, "fair" when it meets all minimum standards but exceeds none by more than fifty percent, and "poor", when it fails to meet the standards in one or more respects. On this basis a survey was made of the rations actually eaten by urban and rural people at different income levels.

It was found that one-fourth of our families had good diets, about one-third had only fair and about a third poor diets. If we were all well fed national consumption of dairy products would be doubled, twenty-five to seventy percent more tomatoes and citrus fruits and one hundred percent more leafy green and yellow vegetables would be consumed. While farm families produce about two-thirds of their own food one-fourth of them also had only fair diets and one-fourth ate poor diets. About one-fifth of our city and village people had good diets, half have fair, and about a third had poor. At all levels Negroes fared worse than whites.

City and village families with annual incomes of less than $500 spent six cents per person per meal for food. That represented eight percent of our nonrelief families too. At annual incomes between $1,000 and $1,499 families spent about ten and a half cents per person per meal. The United States Army allows twenty-one cents per soldier per meal, retail prices, and a higher meat ration than any civilian consumer group gets. But civilian families on incomes between $3,000 and $4,999 allow only eighteen cents per person per meal.

Only families on incomes of $5,000 a year or over allow so much as thirty-one cents per person per meal. How well fed can one be at such rates?

Well only a quarter of the people had fair diets and the rest had poor diets when they spent eight and a half cents per person per meal. When they spent twenty-one and a half cents per person per meal, the Army allowance, then sixty-five percent purchased good diets, thirty percent fair, and the other five percent poor. That was largely ignorance, perhaps, because the twenty-one cent Army diet is good. As families increased in size, however, from two to five to eight members the percentage of good diets sharply decreased —very sharply indeed.

So if you are poor and want to be well-fed try to avoid being a member of a big family. Yet everybody knows the poor have the biggest families. Forty-three percent of the mothers in those low-income farm families mentioned above had had five or more children and one wife out of each ten had had ten. Moreover one occupational group does no better than another in diet selection at the same level of expenditure. Negro families fared worst because of lowest income; they spent what money they had for food quite as wisely as the whites.

It is quite evident that folk on relief, who can spend only from five to seven and a half cents per person per meal on food (the latter if eligible for the Food Stamp Plan in a community where it operates) simply cannot get fair, much less good diets. Yet in 1935-6 there were about four million American families with annual incomes of $500 or less trying to subsist on a weekly expenditure of $1 per person for food.

Who Gets Your Dollar? When you spend one dollar for food, who gets it and how much do they get? The farmer in his dell gets forty-two cents only—overall average; those who transport food get six cents, processors get twenty cents, wholesalers get eight cents, and retailers get twenty-four cents. Brokers and agents are lumped with processors in these figures. Clever advertising and competition on a basis of superfluous service have educated the public to expect all sorts of extras in packaging, delivery, small-quantity buying, food out of season, and many brands and varieties. Furthermore, as perishable a product as milk or one as easily procured as bread often travels one hundred miles in its retail journey to reach a consumer; there is infinite duplication and cross-hauling in such delivery service too. Of course huge quantities of food must be bought in advance by certain individuals or agencies and held in storage until sold. The farmer gets the following number of cents out of the dollar you spend for the food named: Eggs, fifty-eight; potatoes, fifty; hens, forty-eight; dairy products, forty-five; white flour, forty; apples, thirty-five; onions, thirty-one; rice, twenty-nine; canned tomatoes, seventeen; macaroni, thirteen; crackers, nine.

How Well Do Americans Feed? It is a very fortunate thing that so much emphasis is placed upon properly feeding Americans in the Food-For-Freedom which is also designed to aid our allies fighting aggression. In the *American Journal of Public Health* for July 1941, John B. Youmans, M.D., reports on an assessment of the nutrition of a rural population in Tennessee. There were 2,500 subjects, one-fourth of whom were colored, all rural. Their food consumption was recorded, their physical condition was assessed. Undernutrition in the form of calorie deficiency was found to run as high as one hundred percent in some age groups, Bureau Home Economics standards being used for basis of comparison as to complete diets—and calorie deficiency is one of the more primitive aspects of nutrition about which we knew a great deal even a generation or two ago. Over fifty percent of these people showed vitamin A deficiency by visual tests and twenty percent had vitamin C deficiency. There was a low incidence of vitamin B_1 deficiency and no cases of fully developed scurvy, beriberi, pellagra, or vitamin A deficiency were found, with relatively few cases of rickets and nutritional edema.

THE CRITIC

(To be continued)

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We would appreciate any items of current interest which our readers may send in.

WEDNESDAY, APRIL 15, 1942

Medicolegal Notes

"Accidental Means Alone" Causing Death

An insured against accident, while apparently strong, active and in good health, slipped in getting out of a boat on a beach and fell back on some rocks. After a rest he drove his automobile about a mile and was found slumped over the wheel dead. An autopsy showed an embolism of the right auricle and that it was due to a chronic cystitis of long standing. The blood clot was also of some age and had apparently not been known to insured or his friends. The doctors who performed the autopsy testified that the blood clot caused death; that it moved because of the fall. In an action on the policy, the Second Circuit Court of Appeals, affirming judgment for the defendant in the Federal District Court for Vermont, Bush vs. Order of United Commercial Travelers, 124 F. 2d 528, held that the insured's death did not arise through "accidental means alone" within the meaning of the coverage clause of the policy.

The court distinguished the New York case of Silverstein vs. Metropolitan Life Ins. Co., 254 N. Y. 81, 171 N. E. 914, and found no Vermont cases directly in point. "It is true," the court said, "that there are numerous decisions that similar clauses do not prevent recovery where an insured is only subject to a congenital weakness or frailty such as a thin skull, but if we go so far as to say that a disease without which the accident would not have happened was not a contributing cause simply because it was immediately activated by the accident, the express contract of the parties becomes of no effect.

"While the line is often difficult to draw between congenital infirmity or weakness of old age and diseases accelerated by accident, we think that such a dangerous and abnormal physical defect as the existence of a large blood clot lodged in a vein leading to the heart brings the present case within the latter category and therefore that the death of the decedent did not arise through 'accidental means alone.' "

C. E. Clark, Circuit Judge, dissented, being of opinion that the logic of the Silverstein case, that purchasers of accident insurance would hardly expect that latent heart trouble, unknown to anyone and only to be brought out by an accident, would bar recovery on such a policy, must apply inevitably to all conditions contributing to death, such as ulcers, whether benign or malignant, or even nearsightedness which might have caused a fall leading to death. The dissenting opinion pointed out that many of the seemingly conflicting precedents might be reconciled with Judge Cardozo's conclusion in the Silverstein case by noting that they contain an additional clause which adds to the policy provision in the present case the further limitation "and not directly or indirectly, wholly or in part, due to disease or infirmity." This point has not, so far, been passed upon by the Vermont state courts.

Cogent Reasons for Expert Opinions Prevail

Cogent reasons that strengthen the opinion of an expert witness as to a scientific fact in issue and tend to weaken opposite expert opinions not so supported may determine the issue which governs the proper solution of the case. Holtzendorff vs. Eppley Hotels Co., Nebraska Supreme Court, 300 N. W. 411. This was a workmen's compensation proceeding for the result of a fall on a stairway. One of the claimant's doctors testified that other causes than a fall could produce the condition which he found. The medical evidence, reviewed by the court, and all the reasonable inferences arising therefrom did not, it was held, sustain the claimant's position that her disability was caused by her fall or point thereto with any reasonable certainty, and judgment affirming an award was reversed.

X Ray Pictures Not "Books or Writings"

The Pennsylvania statute of 1798 authorizing the trial court to require parties in a litigation or either of them to produce "books or writings" in their possession does not apply to x ray pictures. The act, moreover, applies only to the production of books and writings at the trial and not in advance thereof. A trial court's order in a malpractice case directed the defendant to sign a written authorization to plaintiff or his counsel to examine hospital records, any nurses' records, and any x ray pictures of plaintiff's case and to make copies thereof. It was held, on appeal, that there is nothing in the act to sanction such order. Whetsel vs. Shaw, 343, Pa. 182, 22 A. 2d 751.